

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

**Poster Session****Day 1 - July 26**Poster Sessions  
July 26**Poster presentation applied to Junior Investigator Poster Award**

- 1P-001** Control of cerebral cortex development by the novel gene Nwd1  
Seiya Yamada, Hiroki Akiyama, Shin-Ichi Sakakibara  
*Department of Molecular Neurobiology, Faculty of Human Sciences, Waseda University*
- 1P-002** New neurons born in the area postrema and central canal migrate into the main sensory and spinal nucleus of trigeminal nerve in mouse medulla oblongata  
Hiroki Yasumoto, Eriko Furube, Daishi Hiratsuka, Mitsuhiro Morita, Seiji Miyata  
*Dept of Applied Biol, Kyoto Inst of Technol, Kyoto, Japan*
- 1P-003** Cortical neuritis growth requires a DNA/RNA helices family protein Sbn1  
Iroha Yamamoto<sup>1</sup>, Fuduki Inoguchi<sup>1</sup>, Satoru Yamagishi<sup>2</sup>, Kousuke Taki<sup>1</sup>, Leanne Delaney<sup>3</sup>, Carina Hanashima<sup>4</sup>, Hayato Naka-Kaneda<sup>1</sup>, Yu Katsuyama<sup>1</sup>  
<sup>1</sup>Dept Anat, Univ of Shiga, Shiga, Japan, <sup>2</sup>Dept Anat, Hamamatsu Univ Sch Med, Shizuoka, Japan, <sup>3</sup>Dalhousie Univ, <sup>4</sup>Waseda Univ.
- 1P-004** Effect of histone deacetylase (HDAC) inhibitor on functional recovery after brain injury  
Naoki Sada<sup>1</sup>, Yuki Fujita<sup>1,2</sup>, Toshihide Yamashita<sup>1,2,3</sup>  
<sup>1</sup>Graduate School of Medicine, Osaka University, <sup>2</sup>WPI Immunology Frontier Research Center, Osaka University, Suita, Japan, <sup>3</sup>Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan
- 1P-005** Genotoxic chemical-induced histone H2AX phosphorylation and its restoration in postmitotic mouse hippocampal neurons  
Saki Nakayama, Nobuyuki Fukushima  
*Department of Life Science, Kindai University*
- 1P-006** Development of photo-responsive morphogen for body axis determination of cerebral organoid  
 Ryuji Misawa<sup>1,2</sup>, Yoshiho Ikeuchi<sup>1,2</sup>  
<sup>1</sup>Inst of Industrial Sci, Univ of Tokyo, Tokyo, Japan, <sup>2</sup>Dept Chem and Biotech, Sch of Eng, Univ of Tokyo, Tokyo, Japan
- 1P-007** Proliferation of endothelial cells in the choroid plexus of normal and hydrocephalus mouse  
Ayumi Asami, Seiji Miyata  
*Dept of Applied Biol, Kyoto Inst of Technol, Kyoto, Japan*
- 1P-008** Role of regulator of G-protein signaling 10(RGS10) in the astrocyte activation  
Hyo Jung Shin<sup>1</sup>, Nara Shin<sup>1</sup>, Jinpyo Hong<sup>2</sup>, Dong Woon Kim<sup>2</sup>  
<sup>1</sup>Univ. of Chungnam national, <sup>2</sup>Department of Anatomy, Brain Research Institute, Chungnam National University School of Medicine, Daejeon, 35015, Republic of Korea
- 1P-009** Alteration of glutamate release in GABA excitation and AMPA reaction in developing cerebellum of VPA-induced autistic model rat  
Kana Miyamoto<sup>1</sup>, Tetsuri Mikami<sup>1</sup>, Yukiko Fueta<sup>2</sup>, Susumu Ueno<sup>2</sup>, Yuko Sekino<sup>3</sup>, Yasunari Kanda<sup>4</sup>, Naohiro Hozumi<sup>5</sup>  
<sup>1</sup>Dept Environmental and Life Sciences, Toyohashi University of Technology, Aichi, Japan, <sup>2</sup>University of Occupational and Environmental Health, Fukuoka, Japan, <sup>3</sup>The University of Tokyo, <sup>4</sup>National Institute of Health Sciences, Tokyo, Japan, <sup>5</sup>Department of Electrical Electronic Information Engineering, Toyohashi University of Technology, Aichi, Japan

- 1P-010**      **Corticotropin-releasing factor neurons in the central amygdala regulate sleep/wakefulness and emotional behavior**  
Srikanta Chowdhury<sup>1</sup>, Chi Jung Hung<sup>1</sup>, Toh Miyazaki<sup>1</sup>, Keiichi Itoi<sup>2</sup>, Akihiro Yamanaka<sup>1</sup>  
<sup>1</sup>Department of Neuroscience II, Research Institute of Environmental Medicine, Nagoya University, <sup>2</sup>Laboratory of Information Biology, Graduate School of Information Sciences, Tohoku University, 6-3- 09 Aramaki-Aza Aoba, Sendai, Japan.
- 1P-011**      **Guided neuroplasticity of excitatory neurons in primary sensory cortex: a whisker model**  
Yubo Zheng<sup>1</sup>, Jian-Jia Huang<sup>3,4</sup>, Chun-I Yeh<sup>1</sup>, Yu-Chen Pei<sup>2,3,4</sup>  
<sup>1</sup>Department of Psychology, National Taiwan University, Taipei, Taiwan, <sup>2</sup>Department of Physical Medicine and Rehabilitation, Taoyuan Chang Gung Memorial Hospital, Taoyuan, Taiwan, <sup>3</sup>School of Medicine, Chang Gung University, Taoyuan, Taiwan, <sup>4</sup>Center for Vascularized Composite Allotransplantation, Taoyuan Chang Gung Memorial Hospital, Taoyuan, Taiwan
- 1P-012**      **Neuropeptide Y elicits excitatory synaptic depression onto oxytocin neurons in the hypothalamic paraventricular nucleus.**  
Lei Wang, Shigetomo Suyama, Toshihiko Yada  
Dept of Physiol, Jichi Med Univ, Totigi, Japan
- 1P-013**      **Microglia secretes matrix metalloproteinase-9 by phagocytosing bioparticles of *E. coli*.**  
Shuntaro Oribe<sup>1,2</sup>, Gen Hamanaka<sup>2</sup>, Ryo Ohtomo<sup>2</sup>, Hajime Takase<sup>2</sup>, George C Liang<sup>2</sup>, Hitoshi Inada<sup>1</sup>, Eng H Lo<sup>2</sup>, Noriko Osumi<sup>1</sup>, Ken Arai<sup>2</sup>  
<sup>1</sup>Tohoku Univ School of Medicine, Division of Developmental Neuroscience, Miyagi, <sup>2</sup>Massachusetts General Hospital, Harvard Medical School, Dept Radiol, Massachusetts, USA
- 1P-014**      **Neuropathic pain inhibitor, RAP-103, is a potent inhibitor of microglial CCL1/CCR8**  
 Tetsushi Niiyama<sup>1</sup>, Michael R. Ruff<sup>2</sup>, Candace B. Pert<sup>2</sup>, Mami Noda<sup>1</sup>  
<sup>1</sup>Lab Pathophysiol, Grad Sch Pharm Sci, Kyushu Univ, Fukuoka, Japan, <sup>2</sup>Creative Bio-Peptides, USA, Rockville, MD 20854, USA
- 1P-015**      **Age-related changes in levels of GAD and neuronal population in human inferior colliculus**  
 Indra Pal, Tony George Jacob, Daya Nand Bhardwaj, Tara Sankar Roy  
All India Institute of Medical Sciences, New Delhi, India
- 1P-016**      **Constant is longer in subjective time: A psychophysical study**  
Koki Kannaga, Makoto Miyazaki  
Faculty of Informatics, Shizuoka University, Shizuoka, Japan
- 1P-017**      **Decay time of untrained auditory memory evaluated by the novel sound-object recognition procedure**  
Ryo Murai, Yuta Tamai, Shizuko Hiryu, Kohta I Kobahasi  
Graduate School of Life and Medical Sciences, Doshisha University
- 1P-018**      **Spontaneous activities of visually `responsive cells' in V1 are lower than those of `non-responsive' cells**  
Kaoru Ito, Ryo Sakuma, Takashi Yoshida, Kenichi Ohki  
Department of Physiology, The University of Tokyo School of Medicine, Tokyo, Japan
- 1P-019**      **Trans-dural electrical stimulation to rodent visual cortex with round-tip pressing electrode**  
Tomoki Ogoshi, Soshi Miyamoto, Naofumi Suematsu, Tetsuya Yagi  
Dept Eng, Osaka Univ, Osaka, Japan

- 1P-020**      **Small-animal neuroimaging analysis of the pain matrix in visceral pain model rats**  
 Tianliang Huang<sup>1</sup>, Okauchi Takashi<sup>1</sup>, Wu Yuping<sup>1</sup>, Shigeta Mika<sup>1</sup>, Hu Di<sup>1</sup>, Noguchi Koichi<sup>2</sup>, Watanabe Yasuyoshi<sup>1</sup>, Dai Yi<sup>3</sup>, Cui Yilong Cui<sup>1</sup>  
<sup>1</sup>RIKEN Center for Life Science Technologies, Imaging Application Group, Japan, <sup>2</sup>Dept. Anat & Neurosci., Hyogo College of Medicine, Japan, <sup>3</sup>Dept. Pharm. Sch. Pharm., Hyogo University of Health Sciences Japan
- 1P-021**      **Whole-brain imaging analyses of sensory integrations in C. elegans**  
 Yuko Murakami<sup>1</sup>, Suzu Oe<sup>1</sup>, Takumi Katsume<sup>1</sup>, Takayuki Teramoto<sup>1,7</sup>, Yu Toyoshima<sup>2,7</sup>, Terumasa Tokunaga<sup>3,7</sup>, Osamu Hirose<sup>4,7</sup>, Wu Stephan<sup>5,7</sup>, Jang Moon Song<sup>2,7</sup>, Hirofumi Sato<sup>2,7</sup>, Sayuri Kuge<sup>1,7</sup>, Yuishi Iwasaki<sup>6,7</sup>, Ryo Yoshida<sup>5,7</sup>, Yuichi Iino<sup>2,7</sup>, Takeshi Ishihara<sup>1,7</sup>  
<sup>1</sup>Dept. of Biol., Sch. of Sci., Kyushu Univ, <sup>2</sup>Dept. of Biol. Sci., Sch. of Sci., Univ. of Tokyo, <sup>3</sup>Kyushu Institute of Technology Univ, <sup>4</sup>Dept. of Electronic information., Sch. of Sci and Tech., Kanazawa Univ, <sup>5</sup>The Institute of Statistical Mathematics, <sup>6</sup>Dept. of Intelligent System Engineering. Ibaraki Univ, <sup>7</sup>CREST
- 1P-022**      **Involvement of dopaminergic function in septum on exercise efficiency**  
 Takuya Masuda<sup>1,2</sup>, Shiuchi Tetsuya<sup>3</sup>, Chikahisa Sachiko<sup>3</sup>, Shimizu Noriyuki<sup>3</sup>, Sei Hiroyoshi<sup>3</sup>  
<sup>1</sup>Dept Integ Physiol, Inst Biomedical Sci, Tokushima Univ, Tokushima, Japan, <sup>2</sup>Student lab, Univ of Tokushima, Tokushima, Japan, <sup>3</sup>Dept Integ Physiol, Inst Biomedical Sci, Tokushima Univ Grad Sch, Tokushima, Japan
- 1P-023**      **Fluorescence imaging of odor-induced NO release in the olfactory nervous center of the land slug**  
 Momo Murata<sup>1</sup>, Kohei Ishida<sup>2</sup>, Satoshi Watanabe<sup>3</sup>, Minoru Saito<sup>1,2</sup>  
<sup>1</sup>College of Humanities and Sciences, Nihon University, <sup>2</sup>Graduate School of Integrated Basic Sciences, Nihon University, <sup>3</sup>National Center of Neurology and Psychiatry
- 1P-024**      **Investigating SMN and APP gene mutations in the patients with Backers Muscular Dystrophy**  
 Chandra Devi, Rahul Tyagi, Kanupriya Sharma, Akshay Anand  
 Neuroscience Research Lab, Department of Neurology, Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh
- 1P-025**      **Neuroplasticity in the primary sensory cortical neurons following infra-orbital nerve hemi-neurotomy in adult rats.**  
 Jang-Jier Tseng<sup>1,2</sup>, Ming-Che Chiang<sup>1,2</sup>, Hsiang-Peng Chen<sup>1</sup>, Hsien-Tang Lin<sup>3</sup>, Cheng-Huang Lin<sup>2,3,4</sup>, Jian-Jia Huang<sup>1</sup>, Yu-Chen Pei<sup>1,2,4</sup>  
<sup>1</sup>Department of Physical Medicine and Rehabilitation, Taoyuan Chang Gung Memorial Hospital, Taoyuan, Taiwan, <sup>2</sup>School of Medicine, Chang Gung University, Taoyuan, Taiwan, <sup>3</sup>Department of Plastic and Reconstructive Surgery, Linkou Chang Gung Memorial Hospital, Taoyuan, Taiwan, <sup>4</sup>Ctr. for Vascularized Composite Allotransplantation
- 1P-026**      **The Projection from Secondary to Primary Somatosensory Cortex is Necessary for Physiological S1 Function: A Whisker Study**  
 Ming-Che Chiang<sup>1,3</sup>, Jang-Jier Tseng<sup>1,3</sup>, Jian-Jia Huang<sup>1,3</sup>, Yu-Chen Pei<sup>1,2,3</sup>  
<sup>1</sup>Department of Physical Medicine and Rehabilitation, Chang Gung Memorial Hospital at Taoyuan, Taoyuan, Taiwan, <sup>2</sup>Center of Vascularized Tissue Allograft, Chang Gung Memorial Hospital at Linkou, Taoyuan, Taiwan, <sup>3</sup>School of Medicine, Chang Gung University, Taoyuan, Taiwan
- 1P-027**      **Visual cortex activity with whisker stimulation in monocular deprived mice in vivo**  
 Akari Hashimoto<sup>1</sup>, Akiko Miyamoto<sup>1</sup>, Yoshihisa Tachibana<sup>1</sup>, Koichiro Haruwaka<sup>1,2,3</sup>, Hiroaki Wake<sup>1,3</sup>  
<sup>1</sup>Dept System Neuroscience, Univ of Kobe, Hyogo, Japan, <sup>2</sup>Dept Physiol, SOKENDAI, Kanagawa, Japan, <sup>3</sup>Division of Homeostatic Development, National Institute for Physiological Sciences, Okazaki, Japan
- 1P-028**      **Inter-task consistency of optimal attentional strategy for improving motor performance**  
 Risa Ishizaki<sup>1,2</sup>, Takeshi Sakurada<sup>2</sup>, Masahiro Hirai<sup>2</sup>, Shin-Ichiro Yamamoto<sup>1</sup>  
<sup>1</sup>College of Sys Eng and Sci, Shibaura Inst of Technol, Saitama, Japan, <sup>2</sup>Functional Brain Science Lab, Jichi Medical Univ, Tochigi, Japan



- 1P-029**      **The neural basis of individual differences in working memory for tailor-made neurofeedback system**  
Mayuko Matsumoto<sup>1,2</sup>, Takeshi Sakurada<sup>2</sup>, Masayuki Tetsuka<sup>3</sup>, Takeshi Nakajima<sup>3,4</sup>, Mitsuya Morita<sup>4,5</sup>, Masahiro Hirai<sup>2</sup>, Shin-Ichiro Yamamoto<sup>1</sup>, Shigeru Fujimoto<sup>5</sup>, Kensuke Kawai<sup>3</sup>  
<sup>1</sup>College of Sys Eng and Sci, Shibaura Inst of Technol, Saitama, Japan, <sup>2</sup>Functional Brain Science Lab, Jichi Medical Univ, Tochigi, Japan, <sup>3</sup>Dept of Neurosurgery, Jichi Medical Univ, Tochigi, Japan, <sup>4</sup>Rehabilitation Center, Jichi Medical Univ Hosp, Tochigi, Japan, <sup>5</sup>Div of Neurology, Dept of Medicine, Jichi Medical Univ, Tochigi, Japan
- 1P-030**      **TLR2 in microglia/macrophages of the circumventricular organs and its intracellular signaling controlling thermoregulatory pathways of mouse brains.**  
Saki Murayama, Shiori Muneoka, Seiji Miyata  
*Dept of Applied Biol, Kyoto Inst of Technol, Kyoto, Japan*
- 1P-031**      **The effect of Mind body techniques on the anthropometric, neurocognitive, psychological, biochemical profiles and molecular markers of practising volunteers exposed to high altitudes.**  
Gurkeerat Kaur, Akshay Anand  
*Department of Neurology, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh, India*
- 1P-032**      **Transcription elongation factor TCEB-3 is involved in cold tolerance of *C. elegans***  
Toshihiro Iseki<sup>1</sup>, Natsune Takagaki<sup>2</sup>, Yohei Minakuchi<sup>3</sup>, Atsushi Toyoda<sup>3</sup>, Akane Ohta<sup>1,2</sup>, Atsushi Kuhara<sup>1,2,4</sup>  
<sup>1</sup>Facul. Sci. and Eng., Konan Univ., Japan, <sup>2</sup>Inst. for Integrative Neurobio., Konan Univ., Japan, <sup>3</sup>National Institute of Genetis, Japan, <sup>4</sup>PRIME, AMED
- 1P-033**      **S-allyl cysteine attenuates oxidative stress associated neurodegeneration in old age rats**  
Geetika Garg, Sandeep Singh, Abhishek Kumar Singh, Syed Ibrahim Rizvi  
*Department of Biochemistry, University of Allahabad, Allahabad, India*
- 1P-034**      **Metformin as a caloric restriction mimetic provides neuroprotection against oxidative stress, apoptosis and neurodegeneration during aging**  
Sandeep Singh, Geetika Garg, Abhishek Kumar Singh, Syed Ibrahim Rizvi  
*Department of Biochemistry, University of Allahabad, Allahabad, India*
- 1P-035**      **Brain resident mast cells regulate histamine content and promote wakefulness**  
Sakurako Yagi<sup>1,2</sup>, Takehiko Anzai<sup>1,2</sup>, Noriaki Sakai<sup>1</sup>, Takeo Yoshikawa<sup>2</sup>, Kazuhiko Yanai<sup>2</sup>, Seiji Nishino<sup>1</sup>  
<sup>1</sup>Sleep and Circadian Neurobiology, Stanford Medicine, Palo Alto, CA, USA, <sup>2</sup>Dept Pharmacol, Tohoku Univ, Sch Med
- 1P-036**      **Functional analysis of drosophila *sik3*, a homologue of mouse *Sleepy1* gene**  
Riho Kobayashi<sup>1</sup>, Shin Nakane<sup>1</sup>, Hiroyuki Nakagawa<sup>1</sup>, Jun Tomita<sup>1</sup>, Hiromasa Funato<sup>2</sup>, Masashi Yanagisawa<sup>2</sup>, Kazuhiko Kume<sup>2</sup>  
<sup>1</sup>Department of Neuroparmacology, Graduate School of Pharmaceutical Sciences, Nagoya City University, <sup>2</sup>International Institute for Integrative Sleep Medicine (WPI-IIS), University of Tsukuba
- 1P-037**      **Similarity between subnuclei of the central amygdala and the bed nucleus of the stria terminalis in molecular marker expressions and axonal projections**  
Mao Fujiwara<sup>1</sup>, Shuhei Ueda<sup>1</sup>, Kentaro Kato<sup>1</sup>, Haruhiko Bito<sup>2</sup>, Sayaka Takemoto-Kimura<sup>1,3</sup>  
<sup>1</sup>Res Inst Environ Med, Nagoya Univ, Nagoya, Japan, <sup>2</sup>Dept Neurochem, Univ of Tokyo Grad Sch Med, Tokyo, <sup>3</sup>PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan



- 1P-038**      **The role of  $\beta$ -adrenergic receptors on the maintenance of social hierarchy in mice**  
 Yuiko Nishihara<sup>1</sup>, Yuki Kurauchi<sup>1</sup>, Hina Kawamoto<sup>1</sup>, Risako Tanaka<sup>1</sup>, Akinori Hisatsune<sup>2,3</sup>, Takahiro Seki<sup>1</sup>, Hiroshi Katsuki<sup>1</sup>  
<sup>1</sup>Dept. Chemico-Pharmacol. Sci., Grad. Sch. Pharm. Sci., Kumamoto Univ., Kumamoto, Japan, <sup>2</sup>Priority Organization for Innovation and Excellence, Kumamoto Univ., Kumamoto, Japan, <sup>3</sup>Program for Leading Grad.Sch. HIGO Program, Kumamoto Univ., Kumamoto, Japan
- 1P-039**      **CAPS2 deficiency does not affect social isolation-induced behavioral abnormalities**  
 Mizuki Oka<sup>1</sup>, Tetsushi Sadakata<sup>2</sup>, Yoshitake Sano<sup>3</sup>, Teiichi Furuichi<sup>3</sup>, Yasuyuki Fujiwara<sup>1</sup>, Yo Shinoda<sup>1</sup>  
<sup>1</sup>Dept of Env Health, Sch of Pharm, Tokyo Univ of Pharm and Life Sci, Tokyo, Japan, <sup>2</sup>Office for Prom of the Tenure Track System, Gunma Univ, Gunma, Japan, <sup>3</sup>Dept of Appl Biol Sci, Tokyo Univ of Sci, Chiba, Japan
- 1P-040**      **Neurons monitor dynamically changing reward value in the primate striatum**  
 Osamu Toyoshima<sup>1</sup>, Yawei Wang<sup>2</sup>, Hiroshi Yamada<sup>2,3</sup>, Masayuki Matsumoto<sup>2,3</sup>  
<sup>1</sup>Sch Life and Env, Univ Tsukuba, Tsukuba, Japan, <sup>2</sup>Grad Sch of Comprehensive Human Sci, Univ Tsukuba, Tsukuba, Japan, <sup>3</sup>Faculty Med, Univ Tsukuba, Tsukuba, Japan
- 1P-041**      **Molecular mechanisms of memory consolidation during sleep**  
 Iyo Koyanagi<sup>1</sup>, Kazuhiro Sonomura<sup>2</sup>, Takaaki Sato<sup>2,3</sup>, Takaaki Ohnishi<sup>4</sup>, Takeshi Sakurai<sup>1,5</sup>, Masanori Sakaguchi<sup>1</sup>  
<sup>1</sup>International Institute for Integrative Sleep Medicine (WPI-IIS), University of Tsukuba, Ibaraki, Japan, <sup>2</sup>Life Science Research Center, Shimadzu Corp., Kyoto, Japan, <sup>3</sup>Ph.D. Program in Human Biology, School of Integrative and Global Majors, University of Tsukuba, Ibaraki, Japan., <sup>4</sup>Graduate School of Information Science and Technology, The University of Tokyo, Tokyo, Japan., <sup>5</sup>Faculty of Medicine, University of Tsukuba, Tsukuba, Ibaraki, Japan
- 1P-042**      **Interaction between insular cortex and amygdala during a taste - aversion association.**  
 Konami Abe<sup>1</sup>, Yosuke Narumi<sup>1</sup>, Shuhei Fujima<sup>1</sup>, Yuki Kobayashi<sup>2</sup>, Shigeyoshi Itoharu<sup>2</sup>, Teiichi Furuichi<sup>1</sup>, Yoshitake Sano<sup>1</sup>  
<sup>1</sup>Dept. Applied Biological Science, Tokyo Univ of Science, Chiba, Japan, <sup>2</sup>RIKEN, BSI, Saitama, Japan
- 1P-043**      **Genetic and epigenetic analysis of temperature acclimation of *C. elegans***  
 Mayu Fujita<sup>1</sup>, Shiori Sakai<sup>2</sup>, Misaki Okahata<sup>2</sup>, Yohei Minakuchi<sup>3</sup>, Atsushi Toyoda<sup>3</sup>, Akane Ohta<sup>1,2</sup>, Atsushi Kuhara<sup>1,2,4</sup>  
<sup>1</sup>Facul. Sci. and Eng., Konan Univ., Japan, <sup>2</sup>Inst. for Integrative Neurobio., Konan Univ., Japan, <sup>3</sup>National Institute of Genetis, Japan, <sup>4</sup>PRIME, AMED
- 1P-044**      **Molecular genetic analysis of mutants defective in forgetting of *C. elegans***  
 Soyoka Tanaka, Mary Arai, Takeshi Ishihara  
 Molecular Genetics, Dept Bio, faculty of science, Kyushu University, Fukuoka, Japan
- 1P-045**      **Time-frequency representation of the responses for animate and inanimate objects in inferior temporal and medial dorsal prefrontal cortex**  
 Naohiro Okita<sup>1</sup>, Keisuke Kawasaki<sup>1</sup>, Yoshimichi Takahashi<sup>1</sup>, Takeshi Matsuo<sup>2</sup>, Takafumi Suzuki<sup>3</sup>, Isao Hasegawa<sup>1</sup>  
<sup>1</sup>Dept Neuropsych, Med and Dent Sci, Niigata Univ, Niigata, Japan, <sup>2</sup>Tokyo Metropo Neurol Hosp, Tokyo, Japan, <sup>3</sup>Center for Info & Neural Net, Natl Inst of Info & Comm Tech, Osaka, Japan
- 1P-046**      **Neural correlate of egalitarian preference when facing equal and unequal results under uncertainty**  
 Ai Takahashi<sup>1</sup>, Junko Kato<sup>1</sup>, Tetsuya Matsuda<sup>2</sup>, Carlos Makoto Miyauchi<sup>3</sup>, Hiroshi Takesue<sup>1</sup>  
<sup>1</sup>Graduate School of Legal and Political Studies, the University of Tokyo, <sup>2</sup>The Tamagawa University Brain Science Institute, <sup>3</sup>The University of Tokyo Graduate School of Arts and Sciences

- 1P-047**      **The exploration and functional analysis of brain regions projecting to the medial preoptic area related to parental behavior**  
Keiichiro Sato, Masabumi Minami, Taiju Amano  
*Department of Pharmacology, Graduate School of Pharmaceutical Sciences, Hokkaido University, Hokkaido, Japan*
- 1P-048**      **Chorus increases altruism**  
Reiko Takeuchi<sup>1</sup>, Anri Hattori<sup>1</sup>, Kumiko Toyoshima<sup>2</sup>, Hajime Fukui<sup>1</sup>  
*<sup>1</sup>Dep. of Edu., Nara University of Education, Nara, Japan, <sup>2</sup>Osaka Shoin Women's University, Osaka, Japan*
- 1P-049**      **Investigation of the effect of time dependent changes in pterygopalatine artery (PPA) ligation in C-57 mice**  
Saurabh Kumar<sup>1</sup>, Shweta Modgil<sup>1,2</sup>, Richa Shri<sup>3</sup>, Sushmita Kaushik<sup>4</sup>, Sridhar Bammidi<sup>1</sup>, Akshay Anand<sup>1</sup>  
*<sup>1</sup>Neuroscience Research Lab, Department of Neurology, Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, India-160012, <sup>2</sup>Department of Zoology, Panjab University, Chandigarh, India-160012, <sup>3</sup>Department of Pharmaceutical Sciences and Drug Research, Punjabi University, Patiala, India-147002, <sup>4</sup>Advanced Eye Centre, PGIMER, Chandigarh, India-160012*
- 1P-050**      **Amyloid  $\beta$  oligomer impairs long-term memory in spontaneous behavior**  
Ayaka Uno, Takuya Nakamura, Tsuyoshi Inoue  
*Dept Biophys Chem, Okayama Univ, Okayama, Japan*
- 1P-051**      **Memory recovery on Anserine (beta-alanyl-3-methyl-L-histidine)-treated ApoE4<sup>+/+</sup> knocked-in APP $\beta$ swe/PSEN1dE9 Alzheimer's disease model mice**  
Cheng Lin, Jun Kaneko, Mami Tochigi, Chitose Yoshimine, Tatsuhiko Hisatsune  
*Dept Integrated Biosci, The Univ of Tokyo, Tokyo, Japan*
- 1P-052**      **Neuron-Specific Histone Modification Analysis of Sporadic Alzheimer's Disease**  
Kagari Mano<sup>1</sup>, Tatsuo Mano<sup>1</sup>, Atsushi Iwata<sup>1</sup>, Shigeo Murayama<sup>2</sup>, Tatsushi Toda<sup>1</sup>  
*<sup>1</sup>Dept Neurol, Univ of Tokyo, Tokyo, Japan, <sup>2</sup>Tokyo Metropolitan Geriatric Hospital and Institute of Gerontology, Tokyo, Japan*
- 1P-053**      **Low-Dose A $\beta$  has no effect on hippocampal pyramidal cell activity**  
Hiroki Ishikawa, Tetsuya Hori, Naoto Saitoh  
*Dept Life and Medical Science, Doshisha Univ, Kyoto, Japan*
- 1P-054**      **Combination therapy using neurotrophic factor small-molecule mimetics and blood-brain barrier opening induced by focused ultrasound in a transgenic mouse model of Alzheimer's disease**  
Kristiana Xhima<sup>1,2</sup>, H. Uri Saragovi<sup>4</sup>, Kullervo Hynynen<sup>3</sup>, Isabelle Aubert<sup>1,2</sup>  
*<sup>1</sup>Brain Sciences, Sunnybrook Research Institute, Toronto, Canada, <sup>2</sup>Dept Laboratory Medicine and Pathobiology, University of Toronto, Toronto, Canada, <sup>3</sup>Physical Sciences, Sunnybrook Research Institute, Toronto, Canada, <sup>4</sup>Dept Pharmacology and Therapeutics, McGill University, Montreal, Canada*
- 1P-055**      **Localization of Alzheimer's disease early phase marker, phospho-MARCKS (Ser46) at electron microscopic level**  
Ayaka Ichise<sup>1</sup>, Hideyuki Okano<sup>1</sup>, Shinsuke Shibata<sup>2</sup>, Hitoshi Okazawa<sup>2</sup>, Kyota Fujita<sup>2</sup>  
*<sup>1</sup>Dept Physiol, Keio Univ med, Tokyo, Japan, <sup>2</sup>: Dept. Neuropathology, Tokyo Medical and Dental University, Tokyo, Japan*
- 1P-056**      **Dystonia-4 (DYT4)-associated TUBB4A mutants exhibit disorganized microtubule networks to inhibit neurite outgrowth**  
Natsumi Watanabe, Junji Yamauchi  
*Laboratory of Molecular Neuroscience and Neurology, Tokyo University of Pharmacy and Life Science*

- 1P-057**      **Production and pharmacological treatment of spinocerebellar ataxia type 3 model mice produced by AAV9 vectors**  
Chiaki Hoshino, Ayumu Konno, Masashi Watanabe, Hirokazu Hirai  
*Dept Neurophysiology & neural repair, Gunma Univ, Gunma, Japan*
- 1P-058**      **Elucidation of the mechanism how the motor dysfunction is caused in the mice model of spinocerebellar ataxia**  
Tomoko Ohta<sup>1</sup>, Takahiro Seki<sup>1</sup>, Yuki Kurauchi<sup>1</sup>, Ayumu Konno<sup>2</sup>, Hirokazu Hirai<sup>2</sup>, Akinori Hisatsune<sup>3,4</sup>, Hiroshi Katsuki<sup>1</sup>  
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- 1P-059**      **MEK/ERK signaling regulates regeneration of dopaminergic nerve circuit in planarian *Dugesia japonica***  
Tatsuki Kobayakawa, Masanori Hijioka, Yoshihisa Kitamura  
*Lab. Pharmacol. and Neurobiol., Col. Pharm. Sci., Ritumeikan Univ.*
- 1P-060**      **DJ-1 binding compound attenuates TLR2-mediated inflammatory reactions in BV-2 microglia**  
Chikako Ttanaka, Masanori Hijioka, Toru Onoue, Yoshihisa Kitamura  
*Lab. Pharmacol. and Neurobiol., Col. Pharm. Sci., Ritsumeikan Univ.*
- 1P-061**      **Hypomyelinating leukodystrophy type 12-associated mutation in VPS11 leads to aggresome formation and inhibits oligodendrocyte differentiation**  
Naoto Matsumoto, Junji Yamauchi  
*Laboratory of Molecular Neuroscience and Neurology, Tokyo University of Pharmacy and Life Science*
- 1P-062**      **Therapeutic effects of Rubicon knockdown in a *Drosophila* model of polyglutamine disease**  
Masaki Oba<sup>1</sup>, Yoshitaka Nagai<sup>3</sup>, Koji Fukui<sup>2</sup>, Kazunori Sango<sup>1</sup>, Mari Suzuki<sup>1</sup>  
<sup>1</sup>Diabetic Neuropathy Proj, Tokyo Metro Inst Med Sci, Tokyo, Japan, <sup>2</sup>Dept Biosci Eng, Shibaura Inst Tech, Saitama, Japan, <sup>3</sup>Dept Neurother, Osaka Univ Grad Sch Med, Osaka, Japan
- 1P-063**      **Yes/No Classification of Completely Locked-In Syndrome (CLIS) Patients Using EEG Cortical Current Based on Standard Brain Model**  
Kaito Umetsu<sup>1</sup>, Chaudhary Ujwal<sup>2</sup>, Malekshahi Azim<sup>2</sup>, Rana Aygul<sup>2</sup>, Yasuharu Koike<sup>1,3</sup>, Birbaumer Niels<sup>2,4,5</sup>, Natsue Yoshimura<sup>1,3,6,7</sup>  
<sup>1</sup>Institute of Innovative Research, Tokyo Institute of Technology, Yokohama, Japan, <sup>2</sup>Institute of Medical Psychology and Behavioral Neurobiology, University of Tuebingen, Germany, <sup>3</sup>National Center of Neurology and Psychiatry, Japan, <sup>4</sup>Ospedale San Camillo, IRCCS, Venice, Italy, <sup>5</sup>Wyss Center for Bio and Neuroengineering, Geneva, Switzerland, <sup>6</sup>Neural Information Analysis Laboratories, ATR, Japan, <sup>7</sup>PRESTO, JST, Japan
- 1P-064**      **Comparing the role and transplantation efficacy of human fetal pigmented ciliary epithelium differentiated versus non differentiated stem cells in the murine retinal degeneration model of laser injury**  
Sridhar Bammidi<sup>1</sup>, Jaswinder Kaur Kalra<sup>2</sup>, Akshay Anand<sup>1</sup>  
<sup>1</sup>Neuroscience Research Lab., Department of Neurology, Post Graduate Institute of Medical Education and Research, <sup>2</sup>Department of Obstetrics and Gynecology, Post Graduate Institute of Medical Education and Research

- 1P-065** Differences in executive function between children with Autism Spectrum Disorder and typically developed children: an fNIRS study with motor inhibition task  
Tatsuya Tokuda<sup>1</sup>, Takahiro Ikeda<sup>2,4</sup>, Yukifumi Monden<sup>1,2,3</sup>, Masako Nagashima<sup>2</sup>, Yasushi Kyutoku<sup>1</sup>, Ippeita Dan<sup>1</sup>  
<sup>1</sup>Applied Cognitive Neuroscience Laboratory, Faculty of Science and Technology, Chuo University, <sup>2</sup>Department of Pediatrics, Jichi Medical University, <sup>3</sup>Department of Pediatrics, International University of Health and Welfare, <sup>4</sup>Rehabilitation Center, International University of Health and Welfare
- 1P-066** Oxytocin secretion and social behavior in mice lacking Ca2+-dependent activator protein for secretion 2 (CAPS2)  
Shuhei Fujima, Rina Maniwa, Ryosuke Yamaga, Yoshitake Sano, Teiichi Furuichi  
*Dept. of Appl. Biol. Sci., Fac. of Sci. and Tech., Tokyo Univ. of Sci., Chiba, Japan*
- 1P-067** Behavioral alteration of VPA-induced autistic model rat  
Rie Matsufusa<sup>1</sup>, Saki Iwamoto<sup>1</sup>, Yukiko Fueta<sup>2</sup>, Susumu Ueno<sup>2</sup>, Yuko Sekino<sup>3</sup>, Yoko Nomura<sup>5</sup>, Yasunari Kanda<sup>4</sup>, Sachiko Yoshida<sup>1</sup>  
<sup>1</sup>Dept Env'n'LifeSci, Toyohashi Univ of Tech, Aichi, Japan, <sup>2</sup>University of Occupational and Environmental Health, Fukuoka, Japan, <sup>3</sup>Univ of Tokyo, <sup>4</sup>National Institute of Health Sciences, Tokyo, Japan, <sup>5</sup>Dept Psychol, Queens College, CUNY, New York, USA
- 1P-068** Reelin and BDNF alteration in developing VPA-induced ASD model rat cerebellum  
Midori Fukushima<sup>1</sup>, Nobuyuki Takei<sup>2</sup>, Yasunari Kanda<sup>3</sup>, Sachiko Yoshida<sup>1</sup>  
<sup>1</sup>Department of Environmental and Life Sciences, Toyohashi University of Technology, Aichi, Japan, <sup>2</sup>Brain Research Institute, Niigata Univ., <sup>3</sup> National Institute of Health Sciences, Tokyo, Japan
- 1P-069** Abnormal Behavior and Malformation of Microglia in Schizophrenic Model Mice  
Ako Ikegami<sup>1</sup>, Koichiro Haruwaka<sup>1,2</sup>, Hiroaki Wake<sup>1,3</sup>  
<sup>1</sup>Dept Neurosci, Kobe Univ, Kobe, Japan, <sup>2</sup>Division of Homeostatic Development; National Institute for Physiological Sciences, <sup>3</sup>CREST, JST, Tokyo
-  **1P-070** Social defeat stress-induced elevation in core body temperature modifies behaviors of stressed mice.  
Yutaka Hoshi<sup>1</sup>, Koji Shibasaki<sup>2</sup>, Ryuta Koyama<sup>1</sup>, Yuji Ikegaya<sup>1,3</sup>  
<sup>1</sup>Lab Chem Pharmacol, Grad Sch Pharm Sci, Univ of Tokyo, Tokyo, <sup>2</sup>Department of Molecular and Cellular Neurobiology, Gunma University Graduate School of Medicine, Maebashi, <sup>3</sup>CiNet
-  **1P-071** In vivo PET imaging of AMPA receptor changes during epileptogenesis in drug induced Kindling model  
Yusuke Shibata, Takahashi Takuya, Miyazaki Tomoyuki, Ikeda Chinatsu  
*Dept of Physiol, Gra Sch of Med, Yokohama City Univ, Yokohama, Japan*
- 1P-072** Emergence of visual receptive field remapping in a convolutional neural network for sensory prediction  
Osamu Akiyama<sup>1</sup>, Shigeru Kitazawa<sup>1,2,3</sup>  
<sup>1</sup>Faculty of Medicine, Osaka Univ, Osaka, <sup>2</sup>Grad Sch Med, Osaka Univ, Osaka, <sup>3</sup>Grad Sch of Frontier Biosci, Osaka Univ, Osaka
- 1P-073** Classification of EEG data during imagery of higher and lower pitched sounds  
Shu Sakamoto, Atsushi Kobayashi, Karin Matsushita, Risa Shimizu, Natsumi Nomiyama, Atsushi Aoyama  
*Faculty of Environment and Information Studies, Keio University, Kanagawa, Japan*

- 1P-074 Development of fiberless optogenetics using up-conversion**  
Toh Miyazaki<sup>1</sup>, Srikanta Chowdhury<sup>1</sup>, Takayuki Yamashita<sup>1</sup>, Hideya Yuasa<sup>2</sup>, Hiromu Yawo<sup>3</sup>, Akihiro Yamanaka<sup>1</sup>  
<sup>1</sup>Department of Neuroscience II, Research Institute of Environmental Medicine, Nagoya University, Nagoya, Japan, <sup>2</sup>School of Life Science and Technology, Tokyo Institute of Technology, <sup>3</sup>Department of Developmental Biology and Neuroscience, Tohoku University Graduate School of Life Sciences
- 1P-075 Evaluation of 3D structure in songbird brain by clearing method and Voronoi division**  
Mika Endo, Shunsei Inoue, Masahiro Inda, Kohji Hotta, Kotaro Oka  
Dept Biol, Keio Univ, Kanagawa, Japan
- 1P-076 Quick Reconstruction of the Whole-cell Recorded Neurons Using an Optical Clearing Technique**  
Yu Sato<sup>1</sup>, Takeyuki Miyawaki<sup>1</sup>, Ayako Ouchi<sup>1</sup>, Asako Noguchi<sup>1</sup>, Shun Yamaguchi<sup>2</sup>, Yuji Ikegaya<sup>1,3</sup>  
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- 1P-077 Optimization of the parameters for activation-induced manganese-enhanced MRI**  
Hiroki Tanihira<sup>1</sup>, Satomi Kikuta<sup>2</sup>, Tomonori Fujiwara<sup>3</sup>, Noriyasu Homma<sup>1,4</sup>, Makoto Osanai<sup>1,4</sup>  
<sup>1</sup>Tohoku Univ Grad Sch Med, <sup>2</sup>Primate Res. Inst., Kyoto Univ., <sup>3</sup>Kyorin University School of Medicine, <sup>4</sup>Grad Sch Biomed Eng, Tohoku Univ
- 1P-078 Development of a nerve assessment tool for identifying the lesions site of the injured nerve**  
Pei-Chun Hsu<sup>1,3</sup>, Jian-Jia Huang<sup>3,4</sup>, Ting-Yu Chen<sup>1</sup>, Yueh-Peng Chen<sup>3</sup>, Chih-Jen Wen<sup>4</sup>, Cheng-Huang Lin<sup>2,4</sup>, Yu-Cheng Pei<sup>1,3,4</sup>  
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- 1P-079 Simultaneous monitoring of cardiac and respiratory signals with patch-clamp recordings from mouse brains**  
Motoshige Sato, Nobuyoshi Matsumoto, Asako Noguchi, Toya Okonogi, Takuya Sasaki, Yuji Ikegaya  
Laboratory of Chemical Pharmacology, Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, Japan
- 1P-080 Trajectory analysis of navigation by machine learning: Visualization of behavioral features extracted from discriminative pattern mining**  
Gen Tamaki<sup>1</sup>, Takuto Sakuma<sup>2</sup>, Shuhei Yamazaki<sup>3</sup>, Ichiro Takeuchi<sup>2,4</sup>, Kotaro Kimura<sup>3,5</sup>  
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## Neurogenesis and Gliogenesis

- 1P-081 Evidence for newly generated interneurons in the basolateral amygdala of adult mice.**  
 Angelo Tedoldi<sup>1</sup>, Dhanisha J Jhaveri<sup>1,4</sup>, Sarah Hunt<sup>1</sup>, Robert Sullivan<sup>1</sup>, Nicole R Watts<sup>2</sup>, John M Power<sup>3</sup>, Perry F Bartlett<sup>1</sup>, Pankaj Sah<sup>1</sup>  
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- 1P-082** **Low Dose Irradiation at Early Organogenesis Stage: Later Life Neurobehavioral Consequences**  
 Kailash Manda, Ramya Ganapathi  
*Institute of Nuclear Medicine & Allied Sciences, Delhi*
- 1P-083** **Contribution of late-generated neurons undergoing multiple rounds of cell divisions to sulcogyrogenesis in the ferret cerebral cortex**  
 Kazuhiko Sawada  
*Dept Nutr, Fac Med Health Sci, Tsukuba Int Univ, Tsuchiura, Japan*
- 1P-084** **The periventricular area widely functions as a neural stem cell niche**  
 Eriko Furube<sup>1</sup>, Mitsuhiro Morita<sup>2</sup>, Seiji Miyata<sup>1</sup>  
<sup>1</sup>Dept of Appl Biol, Kyoto Inst of Tech, Kyoto, Japan, <sup>2</sup>Dept of Biol, Kobe Univ, Hyogo, Japan
- 1P-085** **A role of protein arginine methyltransferase 1 (PRMT1) in the generation of CNS glia**  
 Misuzu Hashimoto<sup>1</sup>, Weizhe Lu<sup>2</sup>, Junji Ishida<sup>3</sup>, Kazuya Murata<sup>4</sup>, Tsutomu Nakagawa<sup>1</sup>, Akiyoshi Fukamizu<sup>3</sup>  
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- 1P-086** **Hypoxia-induced factor 1 $\alpha$  promotes myelination during development of the peripheral nervous system**  
 Yuka Ujiie Kobayashi, Shuji Wakatsuki, Toshiyuki Araki  
*Dept Peripheral Nervous System Res, National Institute of Neuroscience, NCNP, Tokyo, Japan*
- 1P-087** **CXCL12/CXCR4-mediated zonal presence and absence of microglia in embryonic cortex modulate the differentiation status of neural progenitors and neuronal subtype specification**  
 Yuki Hattori, Yu Naito, Ayano Kawaguchi, Takaki Miyata  
*Dept Anatomy and Cell Biology, Grad Sch of Med, Nagoya Univ, Aichi, Japan*
- 1P-088** **Temperature-sensitive and -insensitive control of Notch signaling in amniote brain development and evolution**  
 Tadashi Nomura<sup>1</sup>, Ryo Shirai<sup>2</sup>, Wataru Yamashita<sup>1</sup>, Hitoshi Gotoh<sup>1</sup>, Katsuhiko Ono<sup>1</sup>  
<sup>1</sup>Dev Neurobiol, Kyoto Pref Univ Med, Kyoto, Japan, <sup>2</sup>Dpt Med, Niigata Univ, Niigata, Japan
- 1P-089** **GABA is essential for the development and maintenance of cortical GABAergic neuron morphology**  
 Shigeyuki Esumi<sup>1</sup>, Makoto Nasu<sup>1</sup>, Kento Morooka<sup>1</sup>, Yuchio Yanagawa<sup>2</sup>, Kenji Sakimura<sup>3</sup>, Tatsunori Seki<sup>4</sup>, Nobuaki Tamamaki<sup>1</sup>  
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- 1P-090** **The therapeutic potential of fingolimod for ischemia-induced suppression of OPC differentiation.**  
 Ken Yasuda<sup>1</sup>, Takakuni Maki<sup>1</sup>, Satoshi Saito<sup>2</sup>, Yumi Yamamoto<sup>2</sup>, Hisanori Kinoshita<sup>1</sup>, Natsue Kishida<sup>3</sup>, Masafumi Ihara<sup>2</sup>, Ryosuke Takahashi<sup>1</sup>  
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- 1P-091**      **Visualization of the spatiotemporal transitions of neural progenitor identities in the developing mouse cerebral cortex.**  
Tomomi Nakao<sup>1</sup>, Ikumi Fujita<sup>2</sup>, Yuji Tsunekawa<sup>2</sup>, Fumio Matsuzaki<sup>2</sup>  
<sup>1</sup>Grad Sch Biostudies, Kyoto Univ, Kyoto, <sup>2</sup>RIKEN Center for Developmental Biology
- 1P-092**      **Premigratory neurons mechanically limit interkinetic nuclear migration to secure progenitor cells' apical cytotogenesis**  
Takaki Miyata, Yuto Watanabe, Takumi Kawaue  
*Dep Anatomy and Cell Biol, Nagoya Univ Grad Sch of Med, Nagoya, Japan*
- 1P-093**      **Comparative anatomy of possible sites of origin of optic nerve oligodendrocyte precursor cells in the vertebrate embryos**  
Katsuhiko Ono, Hitoshi Gotoh, Wataru Yamashita, Tadashi Nomura  
*Kyoto Pref Univ of Med, Kyoto*
- 1P-094**      **Analysis of cellular migration in developmental dentate gyrus**  
Hiroschi Shinohara, Tatsunori Seki  
*Department of Histology and Neuroanatomy, Tokyo Medical University, Tokyo, Japan*
- 1P-095**      **Effect of microRNAs on mouse neural stem cells in cerebral development.**  
Ryuju Hashimoto<sup>1</sup>, Akihiro Matsumoto<sup>2</sup>, Hiroki Otani<sup>2</sup>  
<sup>1</sup>Dep. Clinical Nursing, Shimane Univ. Izumo, Japan, <sup>2</sup>Dpt. Dev. Biol., Shimane Univ. Izumo, Japan
- 1P-096**      **ATF5 is involved in the maintenance of the radial glia cells pool during cerebral cortex neurogenesis**  
Yasuyuki Kaneko, Umemura Mariko, Kanehata Keisuke, Nakano Haruo, Takahashi Shigeru, Takahashi Yuji  
*Laboratory of Environmental Molecular Physiology, School of Life Sciences, Tokyo University of Pharmacy and Life Sciences, Hachioji, Tokyo 192-0392, Japan*
- 1P-097**      **Regulatory mechanism of glycogen metabolism and its function in the developing spinal cord**  
Hitoshi Gotoh<sup>1</sup>, Tatenda Allois Chimhanda<sup>1,2</sup>, Yuki Yamamoto<sup>3</sup>, Tadashi Nomura<sup>1</sup>, Katsuhiko Ono<sup>1</sup>  
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- 1P-098**      **The role of fragile X mental retardation protein and its target mRNAs in corticogenesis**  
Cristine Casingal, Takako Kikkawa, Hitoshi Inada, Noriko Osumi  
*Tohoku University*
- 1P-099**      **An RNA-binding protein, Qki5, regulates embryonic neural stem cells through pre-mRNA processing in cell adhesion signaling**  
Yoshika Yano<sup>1</sup>, Satoshi Suyama<sup>2</sup>, Masahiro Nogami<sup>3,4</sup>, Masato Yugami<sup>3,4</sup>, Ikuko Koya<sup>2</sup>, Takako Furukawa<sup>1</sup>, Li Zhou<sup>5</sup>, Manabu Abe<sup>5</sup>, Kenji Sakimura<sup>5</sup>, Hirohide Takebayashi<sup>1</sup>, Atsushi Nakanishi<sup>3,4</sup>, Hideyuki Okano<sup>2</sup>, Masato Yano<sup>1,2</sup>  
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- 1P-100**      **Diencephalic progenitors contribute to the posterior septum through rostral migration along the hippocampal axonal pathway**  
Keisuke Watanabe<sup>1,2</sup>, Hirohide Takebayashi<sup>2</sup>, Noboru Sato<sup>1</sup>  
*<sup>1</sup>Div Gross Anat, Niigata Univ, Niigata, Japan, <sup>2</sup>Div Neurobiol Anat, Niigata Univ, Niigata, Japan*
- 1P-101**      **SAD-A kinase regulates radial neuronal migration in the developing brain**  
Keiko Nakanishi<sup>1,2</sup>, Hiroyuki Niida<sup>5,6</sup>, Hidenori Tabata<sup>3</sup>, Tsuyoshi Ito<sup>5</sup>, Yuki Hori<sup>5</sup>, Madoka Hattori<sup>5</sup>, Yoshikazu Johmura<sup>5,7</sup>, Chisato Yamada<sup>5</sup>, Kenichiro Yamada<sup>4</sup>, Kosei Takeuchi<sup>8</sup>, Koh-Ichi Nagata<sup>3</sup>, Nobuaki Wakamatsu<sup>4</sup>, Masashi Kishi<sup>9</sup>, Yujiro Higashi<sup>1</sup>, Makoto Nakanishi<sup>5,7</sup>  
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- 1P-102**      **Forebrain *Ptf1a* is required for sexual differentiation of the brain**  
Tomoyuki Fujiyama<sup>1,2</sup>, Kazumasa Kanemaru<sup>3</sup>, Yousuke Tsuneoka<sup>4</sup>, Miyo Kakizaki<sup>1</sup>, Satomi Kanno<sup>1</sup>, Yoshiya Kawaguchi<sup>5</sup>, Akira Shibuya<sup>3</sup>, Masashi Yanagisawa<sup>1</sup>, Mikio Hoshino<sup>2</sup>, Hiromasa Funato<sup>1,4</sup>  
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- 1P-103**      **Analysis of subcellular distribution of CRISPR/Cas9-mediated highly sensitive tagged-Dab1 in cerebral neocortical neurons**  
Takao Honda, Kazunori Nakajima  
*Department of Anatomy, Keio University School of Medicine*
- 1P-104**      **CLAC-P/collagen type XXV regulates intramuscular innervation of motor axons through the interaction with receptor protein tyrosine phosphatase &sigma; and <math>\delta</math>**  
Haruka Munezane<sup>1</sup>, Hiroaki Oizumi<sup>1</sup>, Tomoyuki Yoshida<sup>2</sup>, Tomoko Wakabayashi<sup>1</sup>, Takeshi Iwatsubo<sup>1</sup>  
*<sup>1</sup>Dept Neuropathol, Grad Sch Med, Univ Tokyo, Tokyo, <sup>2</sup>Department of Molecular Neuroscience, Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama*
- 1P-105**      **Differential roles of epigenetic regulators in the survival and differentiation of oligodendrocyte precursor cells**  
Naohiro Egawa<sup>1,2</sup>, Ryosuke Takahashi<sup>1</sup>, Eng H Lo<sup>2</sup>, Ken Arai<sup>2</sup>  
*<sup>1</sup>Kyoto University Graduate School of Medicine, Department of Neurology, <sup>2</sup>Departments of Radiology and Neurology, Massachusetts General Hospital and Harvard Medical School, Charlestown, Massachusetts, USA*
- 1P-106**      **Characterization of neuronal differentiated cells derived from human dental pulp stem cells (hDPSCs)**  
Yuki Arimura<sup>1</sup>, Toko Kikuchi<sup>1</sup>, Ryu Yamanaka<sup>1</sup>, Yutaka Shindo<sup>1</sup>, Mai Mochizuki<sup>2</sup>, Taka Nakahara<sup>2</sup>, Kotaro Oka<sup>1</sup>  
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- 1P-107**      **A regulatory role for glucocorticoids in glial differentiation from rat neural stem/progenitor cells**  
Kazuhiro Fumimoto<sup>1</sup>, Suzuki Shingo<sup>2</sup>, Ota Ken-Ichi<sup>2</sup>, Miki Takanori<sup>2</sup>, Hirai Yohei<sup>1</sup>, Adachi Naoki<sup>1</sup>  
*<sup>1</sup>Department of Biomedical Chemistry, School of Science and Technology, Kwansei Gakuin University, Sanda, Japan, <sup>2</sup>Department of Anatomy and Neurobiology, Faculty of Medicine, Kagawa University, Kagawa, Japan*

- 1P-108** Hemi-methylated DNA recognition factor, Np95/UHRF1, regulates the behavior of adult neural stem / progenitor cells

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## Stem Cells and Reprogramming

- 1P-109** Cell-cycle Length of MGE Progenitors Determines Interneuron Fate Propensity

Yongchun Yu<sup>2</sup>, Min Wang<sup>1</sup>, Yinghui Fu<sup>1</sup>, Dan Shen<sup>1</sup>, Song-Hai Shi<sup>2</sup>, Yong-Chun Yu<sup>1</sup>

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- 1P-110** PDGFR- $\beta$  enhances regeneration of endogenous neural stem cells after focal cerebral ischemia

Guihua Xu<sup>1</sup>, Jie Shen<sup>2</sup>, Yoko Ishii<sup>3</sup>, Masakiyo Sasahara<sup>3</sup>

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- 1P-111** Regulation of adult neurogenesis by nitric oxide after excessive neuronal excitation

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- 1P-112** Histological and neurochemical characterization of MCH neurons in mouse ES cell-derived hypothalamic tissue culture

Yu Kodani<sup>1</sup>, Hidetaka Suga<sup>2</sup>, Yoko S. Kaneko<sup>1</sup>, Akira Nakashima<sup>3</sup>, Hiroshi Nagasaki<sup>1</sup>

<sup>1</sup>Dept Physiol, Fujita Health Univ Sch Med, Aichi, Japan, <sup>2</sup>Dept Endocrinol & Diabetes, Grad Sch Med, Nagoya Univ, Aichi, Japan, <sup>3</sup>Dept Physiol Chem, Fujita Health Univ Sch Med, Aichi, Japan

- 1P-113** Microglia activated by focal demyelination induced OPC generation in the SVZ

Masae Naruse<sup>1</sup>, Koji Shibasaki<sup>1</sup>, Hiroya Shimauchi<sup>1,2</sup>, Yasuki Ishizaki<sup>1</sup>

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- 1P-114** A rapid protocol for retinal ganglion cell differentiation from human pluripotent stem cell



Kun-Che Chang, Suqian Wu, Xin Xia, Jeffrey Goldberg

Stanford University

- 1P-115** Analysis on cellular and molecular mechanisms for regeneration of the enteric nervous system of zebrafish.

Maria Ohno<sup>1</sup>, Natsumi Horiuchi<sup>1</sup>, Koichi Kawakami<sup>2</sup>, Masataka Nikaido<sup>1</sup>, Kohei Hatta<sup>1</sup>

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- 1P-116** Connexin43-mediated gap junctional intercellular communication is involved in regulation of neural stem/progenitor cell proliferation after neuronal degeneration in the hippocampal dentate gyrus

Masanori Yoneyama, Taro Yamaguchi, Yusuke Onaka, Kiyokazu Ogita

Lab Pharmacol, Fac Pharmaceu Sci, Setsunan University, Osaka, Japan

## iPS Cell Technologies

- 1P-117**      **Widespread analysis of neuronal activity-dependent TSS activation in human neurons**  
Mitsuru Ishikawa, Hideyuki Okano  
*Dept Physiol, Keio Univ Sch of Medicine*
- 1P-118**      **Transplantation of neurons derived from human iPS cell into the mouse hippocampus**  
Tasuku Kayama<sup>1</sup>, Takuya Sasaki<sup>1,2</sup>, Yuji Ikegaya<sup>1</sup>  
<sup>1</sup>Lab Chem Pharmacol, Grad Sch Pharm Sci, Univ of Tokyo, Tokyo, <sup>2</sup>Precursory Research for Embryonic Science and Technology (PRESTO), Japan Science and Technology Agency, Japan
- 1P-119**      **Differentiation of highly-enriched midbrain specific dopaminergic neurons from human induced pluripotent stem cells (iPSCs) on feeder-free culture system**  
Risa Nonaka<sup>1,2</sup>, Kei-Ichi Ishikawa<sup>1,2</sup>, Takayuki Jo<sup>1</sup>, Ryota Nakamura<sup>1</sup>, Takahiro Shiga<sup>2</sup>, Genko Oyama<sup>1</sup>, Shinji Saiki<sup>1</sup>, Hideyuki Okano<sup>3</sup>, Nobutaka Hattori<sup>1</sup>, Wado Akamatsu<sup>2</sup>  
<sup>1</sup>Dept Neurol, Juntendo Univ, Tokyo, Japan, <sup>2</sup>Center for Genomic and Regenerative Medicine, Juntendo Univ, Tokyo, Japan, <sup>3</sup>Department of Physiol, Keio Univ, Tokyo, Japan

## Tissue Engineering and Transplantation

- 1P-120**      **Allo and hetero-graft survival of Hypothalamic Neuron from Mouse Embryonic Stem Cell**  
Hiroshi Nagasaki<sup>1</sup>, Yu Kodani<sup>1</sup>, Hidetaka Suga<sup>2</sup>, Yoko Kaneko<sup>1</sup>, Nakashima Akira<sup>1</sup>  
<sup>1</sup>Dept Physiol, Fujita Health Univ, <sup>2</sup>Dept Endocrinol, Nagoya University Graduate School of Medicine
- 1P-121**      **Potential Neural Stem Cell Therapy on Alzheimer's Disease Animal Model**  
Kuen-Jer Tsai  
*National Cheng Kung University*
- 1P-122**      **Effects of Conditioned Medium from Bone Marrow Stromal Cells on Rat Spinal Cord Injury**  
Kenji Kanekiyo<sup>1</sup>, Norihiko Nakano<sup>1</sup>, Seiya Abe<sup>2</sup>, Chihiro Tsukagoshi<sup>2</sup>, Chimi Miyamoto<sup>2</sup>, Chizuka Ide<sup>1</sup>  
<sup>1</sup>Cent Biomed Lab, Aino Univ, Osaka, Japan, <sup>2</sup>Dept Occup Ther, Fac Health Sci, Aino Univ, Osaka, Japan

## Receptors and Transporters

- 1P-123**      **A Residue at the 2nd Position of GPCR Helix 8 May Control Initial Transient and Specific Interactions with Target G Proteins and Subsequent Signal Processing Hierarchy**  
Takaaki Sato<sup>1</sup>, Mutsumi Matsukawa<sup>2</sup>, Yoichi Mizutani<sup>3</sup>, Reiko Kobayakawa<sup>4</sup>, Ko Kobayakawa<sup>4</sup>, Toshio Iijima<sup>5</sup>, Hiroyoshi Matsumura<sup>6</sup>  
<sup>1</sup>Biomed Res Inst, AIST, Osaka, <sup>2</sup>Dept Funct Morphol, Nihon Univ Sch Med, Tokyo, <sup>3</sup>Dept Med Engin, Fac Health Sci, Aino Univ, Osaka, <sup>4</sup>Inst Biomed Sci, Kansai Med Univ, Hiratsuka, <sup>5</sup>Grad Sch Life Sci, Tohoku Univ, Sendai, <sup>6</sup>Dept Biotech, Coll Life Sci, Ritsumeikan Univ, Kusatsu
- 1P-124**      **Determination of regions required for plasma membrane expression in metabotropic glutamate receptor type 6**  
Takumi Akagi, Dilip Rai, Ikuo Ogiwara, Makoto Kaneda  
*Dept physiol, Nippon Med Sch, Tokyo, Japan*




- 1P-125**      **Maternal chewing during prenatal stress ameliorates stress-induced diabetes in adult offspring**  
Sakurako Hayashi<sup>1</sup>, Hiroko Kondo<sup>1</sup>, Ayumi Suzuki<sup>1</sup>, Kyoko Kajimoto<sup>1</sup>, Masahisa Katano<sup>1</sup>, Kumiko Yamada<sup>2</sup>, Yuichi Sato<sup>3</sup>, Mitsuo Iinuma<sup>1</sup>, Kagaku Azuma<sup>4</sup>, Kin-Ya Kubo<sup>5</sup>  
<sup>1</sup>Dept Pediatric Dent, Asahi Univ, Sch dent, Gifu Japan, <sup>2</sup>Faculty of Human Life and Environmental Sci, Nagoya Woman's Univ Grad Sch, Aichi, Japan, <sup>3</sup>Department of Molecular Diagnostics Medicine School of Allied Health Sciences Department of Applied Tumor Pathology Graduate School of Medical Sciences Kitasato Univ, <sup>4</sup>Dept Anat, Sch Med, UOEH, Fukuoka, Japan, <sup>5</sup>Human Life Sci, Nagoya Woman's Univ Grad Sch, Aichi, Japan
- 1P-126**      **Feeding-related neuropeptide receptor MCHR1 localizes to neuronal primary cilia on hippocampal slice culture**  
Yumiko Saito, Daisuke Miki, Tomoya Okada, Shogo Kobuchi, Yuki Kobayashi  
Grad Sch Interd Arts Science, Hiroshima Univ
- 1P-127**      **Ciliary localization of G protein-coupled receptors in hTERT-RPE1 cells with mutations in ciliopathy-associated genes**  
Ko Miyoshi<sup>1,2</sup>, Sarina Han<sup>1</sup>, Sho Shikada<sup>1</sup>, Genki Amano<sup>1</sup>, Hironori Takamura<sup>1,2</sup>, Takeshi Yoshimura<sup>1</sup>, Shinsuke Matsuzaki<sup>1,3</sup>, Taiichi Katayama<sup>1</sup>  
<sup>1</sup>Dept of Child Develop and Molecular Bra Sci, United Grad Sch of Child Develop, Osaka Univ, Osaka, Japan, <sup>2</sup>Molecular Res Center for Child Mental Develop, United Grad Sch of Child Develop, Osaka Univ, Osaka, Japan, <sup>3</sup>Dept of Pharmacology, Wakayama Medical Univ, Wakayama, Japan
- 1P-128**      **Mechanism of thymidine incorporation via nucleoside transporters on oxidative stress DNA injury in Cultred Astrocytes**  
Koh-Ichi Tanaka<sup>1,2,3</sup>, Kazuo Tomita<sup>1,2</sup>, Nobue Kitanaka<sup>3</sup>, Junichi Kitanaka<sup>3</sup>, Takao Tsukahara<sup>2</sup>, Tomoaki Sato<sup>2</sup>, Motohiko Takemura<sup>3</sup>, Nobuyoshi Nishiyama<sup>1</sup>  
<sup>1</sup>Div Pharmacol, Hyogo Univ Health Sci, Hyogo, Japan, <sup>2</sup>Dept Applied Pharmacol, Kagoshima Univ Grad Sch Med & Dent Sci., Kagoshima, Japan, <sup>3</sup>Dept Pharmacol, Hyogo Col. Med, Hyogo, Japan
- 1P-129**      **Arsenic and its metabolites promote internalization of surface AMPA receptors**  
Yoshihiko Wakazono<sup>1</sup>, Harishkumar Madhyastha<sup>2</sup>, Ryosuke Midorikawa<sup>1</sup>, Masugi Maruyama<sup>2</sup>, Kogo Takamiya<sup>1</sup>  
<sup>1</sup>Dept Integr Phsiol, Fac of Med, Univ of Miyazaki, Miyazaki, Japan, <sup>2</sup>Dept Appl Physiol, Univ of Miyazaki, Miyazaki, Japan
- 1P-130**      **Effects of ethanol on glutamate transporter-mediated currents in cerebellar Purkinje cells**  
Shin'ichiro Satake<sup>1,2</sup>, Keiji Imoto<sup>1,2</sup>  
<sup>1</sup>National Institute for Physiological Sciences, Okazaki, Japan, <sup>2</sup>The Graduate University for Advanced Studies, Okazaki, Japan

## Ion Channels and Excitable Membranes

- 1P-131**      **Dendritic GABA(B) receptors inhibit Cav1.2 calcium channels and abolish LTP in somatostatin interneurons**  
Akos Kulik<sup>1,2</sup>, Sam A Booker<sup>3</sup>, Desiree Loreth<sup>1</sup>, Imre Vida<sup>4</sup>  
<sup>1</sup>University of Freiburg, <sup>2</sup>Centre for Biological Signalling Studies (BIOSS), University of Freiburg, <sup>3</sup>Centre for Discovery Brain Sciences, University of Edinburgh, <sup>4</sup>Institute for Integrative Neuroanatomy, Charite Berlin

- 1P-132 Double nanodomain coupling of P/Q-type calcium channels, ryanodine receptors and BK channels controls generation of burst firing**  
Tomohiko Irie<sup>1,2</sup>, Trussell O Laurence<sup>2,3</sup>  
<sup>1</sup>Division of Pharmacology, National Institute of Health Sciences, Kanagawa, Japan, <sup>2</sup>Oregon Hearing Research Center, Oregon Health and Science University, Portland, USA, <sup>3</sup>Vollum Institute, Oregon Health and Science University, Portland, USA
- 1P-133 Identification of responsible polymorphism and analysis of KQT-type potassium channels for cold acclimation**  
Misaki Okahata<sup>1,2</sup>, Sawako Yoshina<sup>3</sup>, Aguan D Wei<sup>4</sup>, Yohei Minakuchi<sup>5</sup>, Atsushi Toyoda<sup>5</sup>, Shohei Mitani<sup>3</sup>, Akane Ohta<sup>1,2</sup>, Atsushi Kuhara<sup>1,2,6</sup>  
<sup>1</sup>Grad. school of Nat. Sci., Univ of Konan, Hyogo, Japan, <sup>2</sup>Inst. for Integrative Neurobio., Univ. of Konan, Hyogo, Japan, <sup>3</sup>School of Med, Tokyo Women's Medical Univ., Tokyo, Japan, <sup>4</sup>Seattle Children's Research Institute, Seattle, USA, <sup>5</sup>National Institute of Genetics, Shizuoka, Japan, <sup>6</sup>AMED, Japan
- 1P-134 Non-steroidal anti-inflammatory drugs inhibit frog sciatic nerve compound action potentials in a manner dependent on their chemical structures**  
Rika Suzuki, Tsugumi Fujita, Kotaro Mizuta, Nobuya Magori, Chong Wang, Fan Yang, Eiichi Kumamoto  
Dept Physiol, Facult Med, Saga Univ, Saga, Japan
- 1P-135 Hinokitiol's chemical structures involved in its inhibitory action on frog sciatic nerve compound action potentials**  
Nobuya Magori, Tsugumi Fujita, Rika Suzuki, Chong Wang, Fan Yang, Eiichi Kumamoto  
Dept Physiol, Saga Univ, Saga, Japan
- 1P-136 Depolarization-induced sensitization of layer 2/3 pyramidal cells in mouse granule retrosplenial cortex**  
Mengxuan Gao, Yuji Ikegaya  
Lab Chem Pharmacol, Grad Sch Pharm Sci, Univ of Tokyo, Tokyo
- 1P-137 Static magnetic fields can temporarily alter the membrane excitability of mouse pyramidal neurons.**  
Yasuyuki Takamatsu<sup>1</sup>, Sinha Saran Adya<sup>2</sup>, Tenpei Akita<sup>2</sup>, Atsuo Fukuda<sup>2</sup>, Tatsuya Mima<sup>3</sup>  
<sup>1</sup>Kinugasa Research Organization, Ritsumeikan Univ, Kyoto, Japan, <sup>2</sup>Dept Neurophysiol, Hamamatsu Univ Sch Med, Hamamatsu, Japan, <sup>3</sup>Grad Sch of Core Ethics and Frontier Sci, Ritsumeikan Univ, Kyoto, Japan
- 1P-138 Cyclic AMP buffering proteins support the phasic and tonic functions of olfactory receptor neurons**  
Noriyuki Nakashima<sup>1</sup>, Kie Nakashima<sup>2,5</sup>, Akiko Taura<sup>3,5</sup>, Akiko Takaku<sup>5,6</sup>, Harunori Ohmori<sup>1,4,5</sup>, Makoto Takano<sup>1</sup>  
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- 1P-139 Neural stem cell-specific Itpa knockout mouse as a model of human ITPA deficiency**  
Daisuke Tsuchimoto<sup>1</sup>, Yuichiro Koga<sup>1</sup>, Yoshinori Hayashi<sup>2</sup>, Nona Abolhassani<sup>1</sup>, Yasuto Yoneshima<sup>1</sup>, Hiroshi Nakanishi<sup>3</sup>, Yusaku Nakabeppu<sup>1</sup>  
<sup>1</sup>Div Neurofunc Genomics, Med Inst Bioreg, Kyushu Univ, Fukuoka, Japan, <sup>2</sup>Dept Aging Sci and Pharmacol, Fac Dent Sci, Kyushu Univ, Fukuoka, Japan, <sup>3</sup>Dept Pharmacol, Fac Pharm Sci, Yasuda Women's Univ, Hiroshima, Japan



- 1P-140** Novel fast intrinsic optical signal related to the membrane potential change in the area CA1 of hippocampal slices in mice: comparison to the voltage-sensitive dye signal  
Yoko Tominaga<sup>1</sup>, Maki Koike Tani<sup>2</sup>, Tomomi Tani<sup>2</sup>, Takashi Tominaga<sup>1</sup>  
<sup>1</sup>Inst Neurosci, Tokushima Bunri Univ, Sanuki, Japan, <sup>2</sup>Eugene Bell Cntr Regenerative Biol Tissue Engineering, MBL, USA
- 1P-141** Analysis of spontaneous co-EPSCs by somato-dendritic recordings from cerebellar Purkinje neurons  
Gen Ohtsuki<sup>1,2</sup>  
<sup>1</sup>Hakubi center, Kyoto Univ, Japan, <sup>2</sup>Dept Biophysics, Kyoto Univ Grad Sch of Sci, Kyoto, Japan
- 1P-142** Chronical administration of lutein suppresses trigeminal nociceptive neuronal hyperexcitability associated with hyperalgesia  
 Yumiko Shoji<sup>1</sup>, Ryota Kobayashi<sup>1</sup>, Nako Miyamura<sup>1</sup>, Yoshiko Kubota<sup>2</sup>, Nobuo Uotsu<sup>2</sup>, Kei Yui<sup>2</sup>, Yoshihito Shimazu<sup>1</sup>, Mamoru Takeda<sup>1</sup>  
<sup>1</sup>Lab. of Food Physiol. Sci, Dep. of Life Food Sci, Sch. of Life Env. Sci, Azabu Univ., <sup>2</sup>FANCL Health Sci. Res Cen, Res Inst, FANCL corp.
- 1P-143** High-content imaging analysis of synaptic status in cultured neurons : evaluation of activity-dependent regulation of drebrin clusters along dendrites by NMDA receptors  
 Kenji Hanamura<sup>1</sup>, Noriko Koganezawa<sup>1</sup>, Yuko Sekino<sup>2</sup>, Tomoaki Shirao<sup>1</sup>  
<sup>1</sup>Dept Neurobiol Behav, Gunma Univ Grad Sch of Med, Maebashi, Japan, <sup>2</sup>Lab Chem Pharmacol, Grad Sch Pharmaceut Sci, Univ of Tokyo, Tokyo, Japan
- 1P-144** The Model Mouse of Spinocerebellar Ataxia 42 harboring a missense mutation of Cacna1g  
 Yukiko Matsuda<sup>1</sup>, Hiroyuki Morino<sup>1</sup>, Takashi Kurashige<sup>2</sup>, Hisako Nakayama<sup>3</sup>, Toshinori Matsuoka<sup>3</sup>, Yusuke Sotomaru<sup>4</sup>, Kouichi Hashimoto<sup>3</sup>, Hideshi Kawakami<sup>1</sup>  
<sup>1</sup>Dept. Epidemiol., RIRBM, Univ. of Hiroshima, Hiroshima, Japan, <sup>2</sup>Dept. Neurol., Natl. Hosp. Org. Kure Med. Ctr., Kure, Japan, <sup>3</sup>Dept. Neurophysiol., Grad. Sch. Biomed. and Hlth. Sci., Univ of Hiroshima, Hiroshima, Japan, <sup>4</sup>Natural Sci. Ctr. of Basic Res. and Develop., Univ. of Hiroshima, Hiroshima, Japan

## Synapse

- 1P-145** Postsynaptic PirB generates asymmetries in hippocampal circuitry  
Tsuneyuki Koga<sup>1</sup>, Chikamatsu Kanako<sup>1</sup>, Nitta Noritaka<sup>1</sup>, Kawashima Shihomi<sup>1</sup>, Sugimoto Shunichi<sup>1</sup>, Kobayashi Kenta<sup>2</sup>, Ito Isao<sup>1</sup>  
<sup>1</sup>Dept Biol, Grad Sch Sci, Kyushu Univ., Fukuoka, <sup>2</sup>Section of Viral Vector Development, National Institute for Physiological Sciences
- 1P-146** Age-related dysfunction of the cholinergic synapse may cause the patterned jaw movements for rejection in the feeding behavior of *Aplysia kurodai*  
Tatsumi Nagahama, Motohiro Muramatsu  
Dept Biophys, Fac Pharm Sci, Toho Univ, Funabashi, Japan
- 1P-147** Functional role of the extracellular matrix molecule Hapln4/Bral2 at the calyx of Held synapse  
Midori Edamatsu<sup>1</sup>, Tetsuya Hori<sup>2</sup>, Toshitaka Oohashi<sup>1</sup>  
<sup>1</sup>Dept Mol Biol Biochem, Okayama Univ, Okayama, Japan, <sup>2</sup>Dept of Neurophysiol, Faculty of Life and Medical Sci, Doshisha Univ, Kyoto, Japan

- 1P-148**      **Loss of the synaptic suppressor MDGA1 reduced excitatory/inhibitory ratio to impair cognitive function.**  
 Tohru Yamamoto<sup>1</sup>, Steven A. Connor<sup>2</sup>, Ina Ammendrup-Johnsen<sup>2</sup>, Yasushi Kishimoto<sup>3</sup>, Takashi Harada<sup>3</sup>, Daiki Ojima<sup>1</sup>, Md. Razib Hossain<sup>1</sup>, Ann Marie Craig<sup>2</sup>  
<sup>1</sup>Dept Mol Neurobiol, Fac Med, Kagawa Univ, Kagawa, Japan, <sup>2</sup>Dept Psychiat, Univ of British Columbia, Vancouver, Canada, <sup>3</sup>Dept Neurobiophys, Kagawa Schl Pharm Sci, Tokushima Bunri Univ, Kagawa, Japan
- 1P-149**      **Dendritic localization of mRNAs for Arf GEFs and GAPs involved in spine formation in dendrites**  
 Rie Ohashi<sup>1,2</sup>, Yoshitaka Kimori<sup>2,3,4</sup>, Nobuyuki Shiina<sup>1,2,5</sup>  
<sup>1</sup>Lab Neuronal Cell Biol., NIBB, Okazaki, Japan, <sup>2</sup>Dept Basic Biol., SOKENDAI, Okazaki, Japan, <sup>3</sup>Dept Imaging Sci., CNSI, NINS, Okazaki, Japan, <sup>4</sup>Lab Biol. Diversity, NIBB, Okazaki, Japan, <sup>5</sup>Lab Neuronal Cell Biol., OIIB, Okazaki, Japan
- 1P-150**      **cAMP imaging during axon elongation and presynaptic differentiation of cerebellar granule cell**  
 Yuki Mukai, Seiko Kawata, Hiroki Ishikawa, Tetsuya Hori, Naoto Saitoh  
 Graduate School of Life and Medical Sciences, Doshisha University
- 1P-151**      **SGIP1α functions as an endocytic adaptor for the internalization of calcium sensor synaptotagmin 1**  
 Sang-Eun Lee, Soomin Jeong, Sunghoe Chang  
 Seoul National University College of Medicine
- 1P-152**      **Suppression of microglia prevents nerve injury-induced remodeling of thalamic circuits and ectopic allodynia**  
 Yoshifumi Ueta, Sachie Sekino, Futaba Miyoshi, Yoko Katayama, Mariko Miyata  
 Dept Physiol, Tokyo Women's Med Univ, Tokyo
- 1P-153**      **Ultrastructural analysis of synapses in acute brain slices prepared at ice-cold and physiological temperatures**  
 Kohgaku Eguchi, Ryuichi Shigemoto  
 Institute of Science and Technology Austria, Klosterneuburg, Austria
- 1P-154**      **M1 muscarinic receptors presynaptically inhibit GABAergic transmission from striatal medium spiny neurons onto cholinergic interneurons**  
 Etsuko Suzuki, Toshihiko Momiyama  
 Dept Pharm, Jikei Univ, Tokyo, Japan
- 1P-155**      **Roles of dyskinesia and epilepsy-related molecule, proline-rich transmembrane protein 2 (PRRT2) in the basal ganglia**  
 Daisuke Hatta<sup>1</sup>, Daiki Nagai<sup>2</sup>, Yuma Hori<sup>1</sup>, Yuka Jiuchi<sup>1</sup>, Kaori Watanabe<sup>1</sup>, Akira Kinoshita<sup>3</sup>, Naohiro Kurotaki<sup>4</sup>, Hiroki Ozawa<sup>4</sup>, Koh-Ichiro Yoshiura<sup>3</sup>, Keiro Shirogami<sup>1,2</sup>, Nobuhisa Iwata<sup>1,2</sup>  
<sup>1</sup>Dept Genome-based Drug Discovery, Nagasaki Univ, Nagasaki, Japan, <sup>2</sup>Sch Pharm Sci, Nagasaki Univ, Nagasaki, Japan, <sup>3</sup>Dept Human Genet, Atomic Bomb Dis Ins, Nagasaki Univ, Nagasaki, Japan, <sup>4</sup>Dept Neuropsych, Grad Sch Biomed Sci, Nagasaki Univ, Nagasaki, Japan
- 1P-156**      **Modulation of glutamatergic transmission onto basal forebrain cholinergic neurons by serotonin**  
 Takuma Nishijo, Toshihiko Momiyama  
 Dept Pharmacol, Jikei Univ Sch Med, Tokyo, Japan

- 1P-157**      **The role of N-methyl- D-aspartate receptor in radiation-induced decrease of postsynaptic protein drebrin**  
 Anggraeini Puspitasari<sup>1</sup>, Shuchuan Miao<sup>2</sup>, Noriko Koganezawa<sup>2</sup>, Kenji Hanamura<sup>2</sup>, Kathryn D Held<sup>1,3</sup>, Tomoaki Shirao<sup>2</sup>  
<sup>1</sup>Gunma University Initiative for Advanced Research, <sup>2</sup>Department of Neurobiology and Behavior, Gunma University Graduate School of Medicine, Maebashi, Japan, <sup>3</sup>Department of Radiation Oncology Massachusetts General Hospital/ Harvard Medical School, Boston, MA, USA.
- 1P-158**      **Impairment of NHE6 recruitment to synaptic vesicle by SCAMP5 deficiency decreases quantal size at glutamatergic synapses**  
 Unghwi Lee<sup>1</sup>, Daehun Park<sup>1</sup>, Soohyun Kim<sup>1</sup>, Sunghoe Chang<sup>1,2,3</sup>  
<sup>1</sup>Department of Physiology and Biomedical Sciences, Seoul National University College of Medicine, Seoul, South Korea, <sup>2</sup>Neuroscience Research Institute, Medical Research Center, Seoul National University College of Medicine, Seoul, South Korea, <sup>3</sup>Biomembrane Plasticity Research Center, Seoul National University College of Medicine, Seoul, South Korea
- 1P-159**      **Ca<sup>2+</sup> gradients at the vicinity of the Ca<sup>2+</sup> channel: a comparison between linearized buffer approximation and reaction-diffusion simulation**  
 Yukihiro Nakamura<sup>1</sup>, Digregorio A David<sup>2</sup>  
<sup>1</sup>Dept Pharmacol, Jikei Univ Sch Med, Tokyo, Japan, <sup>2</sup>Lab of Dynamic Neuronal Imaging, Institut Pasteur, Paris, France
- 1P-160**      **The characterization of zebrafish orthologs of mammalian CAST and ELKS**  
 Hajime Yamauchi, Ohtsuka Toshihisa  
 Dept Biochem, Grad Sch Med, Univ of Yamanashi, Yamanashi, Japan
- 1P-161**      **Layer 5a and 5b dependent inhibitory connections in the rat frontal cortex.**  
 Mieko Morishima<sup>1</sup>, Yasuo Kawaguchi<sup>1,2</sup>  
<sup>1</sup>Div cereb circuitry, NIPS, Okazaki, Japan, <sup>2</sup>SOKENDAI, Okazaki, Japan
- 1P-162**      **Analysis of rapid decrease in EPSC amplitude after sudden block of exocytic insertion of AMPAR into PF-PC synapse**  
 Kazuhiko Yamaguchi  
 Lab.for Behavioral Genetics
- 1P-163**      **Extracerebellar localization of glutamate receptor GluD2 in rodents and primates**  
 Kohtarou Konno<sup>1</sup>, Kenji Sakimura<sup>2</sup>, Miwako Yamasaki<sup>1</sup>, Masahiko Watanabe<sup>1</sup>  
<sup>1</sup>Dept.of Anatomy, Hokkaido Univ. Faculty of Medicine, Sapporo, Japan, <sup>2</sup>Dept Cell Neurobiol, Brain Res Inst, Niigata Univ, Niigata, Japan
- 1P-164**      **Direct Interaction of Calsyntenin-3 and Neurexin Promotes Excitatory and Inhibitory Synapse Formation**  
 Hyeonho Kim<sup>1</sup>, Dongwook Kim<sup>1</sup>, Hyeyeon Kang<sup>1</sup>, Dongseok Park<sup>1</sup>, Ji Seung Ko<sup>2</sup>, Jaewon Ko<sup>2</sup>, Ji Won Um<sup>1</sup>  
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## Gene Regulation and Epigenetics

- 1P-165** CPEB1 undergoes RNA stability control by Auf1 and autologous translation repression via 3' untranslated region.

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## Vision

- 1P-166** Neural response to complex motion in macaque area MT  
Takahisa M Sanada<sup>1,2</sup>, Takahiro Kawabe<sup>3</sup>, Shin'ya Nishida<sup>3</sup>, Hidehiko Komatsu<sup>2,4</sup>  
<sup>1</sup>Dept Physiol, Kansai Medical University, Osaka, Japan, <sup>2</sup>Nat'l institute for physiological sciences, Okazaki, Japan, <sup>3</sup>NTT Communication Science Laboratories, Nippon Telegraph and Telephone Corporation, Kanagawa, Japan, <sup>4</sup>Brain Science Institute, Tamagawa University, Tokyo Japan
- 1P-167** Effects of the manipulation of neural activities in the gloss selective region of the macaque monkey on the gloss discrimination behavior  
Mika Baba<sup>1,2</sup>, Akiko Nishio<sup>2</sup>, Takeaki Shimokawa<sup>3</sup>, Hidehiko Komatsu<sup>1,2</sup>  
<sup>1</sup>Tamagawa Univ Brain Sci Inst, Tokyo, Japan, <sup>2</sup>National Institute for Physiological Sciences, Aichi, Japan, <sup>3</sup>Advanced Telecommunications Research Institute International, Kyoto, Japan
- 1P-168** Microstructural properties of vertical occipital fasciculus explain individual variability of human stereoacuity  
Hiroki Oishi<sup>1,2</sup>, Hiromasa Takemura<sup>1,2</sup>, Shuntaro C Aoki<sup>1</sup>, Ichiro Fujita<sup>1</sup>, Kaoru Amano<sup>1,2</sup>  
<sup>1</sup>Grad Sch Frontier Biosci, Osaka Univ, Suita, Japan, <sup>2</sup>CiNet, NICT and Osaka Univ, Suita, Japan
- 1P-169** Modifications of Structure and Function in Retinal Ganglion Cells of STZ-induced Diabetic Mice  
Yong-Mei Zhong, Run-Ze Cui, Lu Wang, Sheng-Nan Qiao, Shi-Jun Weng, Xiong-Li Yang  
*Retina Unit, Institutes of Brain Science, Fudan University*
- 1P-170** How NKCC1 and KCC2 work in ON-and OFF-bipolar cells of the mouse retina ?  
Chengzhu Yin, Makoto Kaneda  
*Dept phys, Nippon Medical School, Tokyo, Japan.*
- 1P-171** Influences of Pikachurin deletions on initial phase of optokinetic responses in mice  
Yuko Sugita<sup>1</sup>, Kenichiro Miura<sup>2</sup>, Takahisa Furukawa<sup>1</sup>  
<sup>1</sup>Lab. Mol & Dev Biology, Protein Inst, Osaka Univ, Osaka, Japan, <sup>2</sup>Dept. Integ Brain Sci, Grad Sch. Med, Kyoto Univ, Kyoto, Japan
- 1P-172** Comparison in the rod bipolar and All amacrine cell pathway for high-sensitive rod signals between macaque and mouse retinas  
Yoshihiko Tsukamoto<sup>1,2</sup>, Naoko Omi<sup>1</sup>  
<sup>1</sup>Studio EM-Retina, <sup>2</sup>Department of Biology, Hyogo College of Medicine
- 1P-173** In vivo imaging of visual response dynamics from the SC of awake mice.  
Masatoshi Kasai, Tadashi Isa  
*Dept Neurobiol, Kyoto Univ Grad Sch Med, Kyoto, Japan*

- 1P-174**      **Cholinergic modulation of LFP activity in superior colliculus in response to looming visual stimulus**  
Kota Tokuoka<sup>1,2</sup>, Masatoshi Kasai<sup>2</sup>, Tadashi Isa<sup>2</sup>  
<sup>1</sup>Grad Sch Biostudies, Kyoto Univ, Kyoto, Japan, <sup>2</sup>Dept Neurosci, Grad Sch Med, Kyoto Univ, Kyoto, Japan
- 1P-175**      **Pupil dilation reflects "Viewing from above bias" in the effort to control perception**  
Fumiaki Sato<sup>1</sup>, Bruno Laeng<sup>2</sup>, Shigeki Nakauchi<sup>1</sup>, Tetsuto Minami<sup>1</sup>  
<sup>1</sup>Computer Science and Engineering, Toyohashi University of Technology, Aichi, <sup>2</sup>University of Oslo, Oslo, Norway
- 1P-176**      **Top-down modulation of neuronal activity in neocortical output microcolumns**  
Hisato Maruoka, Toshihiko Hosoya  
Lab for Local Neuronal Circuits, RIKEN, BSI
- 1P-177**      **Revealing a ventral stream extending to temporal cortex in mice**  
Nana Nishio<sup>1,2</sup>, Hiroaki Tsukano<sup>1</sup>, Ryuichi Hishida<sup>1</sup>, Manabu Abe<sup>3</sup>, Junichi Nakai<sup>4</sup>, Meiko Kawamura<sup>3</sup>, Atsu Aiba<sup>5</sup>, Kenji Sakimura<sup>3</sup>, Katsuei Shibuki<sup>1</sup>  
<sup>1</sup>Dept Neurophysiol, BRI, Niigata Univ., Niigata, Japan, <sup>2</sup>Dept Physiol, Univ of Tokyo, Tokyo, Japan, <sup>3</sup>Dept Cell Neurobiol, BRI, Niigata Univ., Niigata, Japan, <sup>4</sup>BBSSI, Saitama Univ., Saitama, Japan, <sup>5</sup>Animal Resources, CDBIM, Univ. of Tokyo., Tokyo, Japan
- 1P-178**      **Axonal projections from area MT in the common marmoset**  
Hiroshi Abe<sup>1</sup>, Toshiki Tani<sup>1</sup>, Hiromi Mashiko<sup>1</sup>, Naohito Kitamura<sup>1</sup>, Kazuhisa Sakai<sup>2</sup>, Taku Hayami<sup>2</sup>, Satoshi Watanabe<sup>2</sup>, Wataru Suzuki<sup>2</sup>, Hiroaki Mizukami<sup>3</sup>, Akiya Watakabe<sup>4</sup>, Tetsuo Yamamori<sup>4</sup>, Noritaka Ichinohe<sup>1,2</sup>  
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- 1P-179**      **Elucidation of dopaminergic modulation of optomotor response in *Drosophila***  
Masumi Akiba<sup>1</sup>, Kentaro Sugimoto<sup>2</sup>, Junji Yamauchi<sup>1</sup>, Takako Morimoto<sup>1</sup>  
<sup>1</sup>Molecular Neuroscience and Neurology, Tokyo Univ of Pharm and Life Sci, Tokyo, Japan, <sup>2</sup>Tokyo Inst. of Tech., Tokyo, Japan
- 1P-180**      **Functional (re)organization of brain networks during visual perception and visually guided action**  
 Dipanjan Ray, Nilambari Hajare, Dipanjan Roy, Arpan Banerjee  
National Brain Research Centre
- 1P-181**      **Neurophysiological correlate of the subjective glare: An event-related potential study**  
 Daiki Yoshioka<sup>1</sup>, Yui Takagi<sup>2</sup>, Takuya Miyagi<sup>1</sup>, Koki Kannaga<sup>2</sup>, Saki Akaike<sup>3</sup>, Kazumasa Onda<sup>3</sup>, Hidenori Horita<sup>3</sup>, Shigeki Takeuchi<sup>4,5</sup>, Makoto Miyazaki<sup>1,2,5</sup>  
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- 1P-182**      **Different Activity Patterns in Retinal Ganglion Cells of TRPM1 and mGluR6 Knockout Mice**  
Haruki Takeuchi, Sho Horie, Matsushima Hiroki, Hori Tesshu, Yoshitaka Kimori, Katsunori Kitano, Yasuhiro Tsubo, Masao Tachibana, Chieko Koike  
Dept Life Sciences, Ritsumeikan Univ, Shiga, Japan

- 1P-183**      **Modulatory effects of serotonin on perceptual and neural contrast sensitivity of rats**  
Akinori Sato<sup>1,3,4</sup>, Keisuke Tsunoda<sup>1</sup>, Ryo Mizuyama<sup>1,5</sup>, Satoshi Shimegi<sup>1,2</sup>  
<sup>1</sup>Grad Sch Frontier Biosci, Osaka Univ, Toyonaka, Japan, <sup>2</sup>Grad Sch Med, Osaka Univ, Osaka, Japan, <sup>3</sup>Research Fellowship of JSPS, Tokyo, Japan, <sup>4</sup>IPBS, Osaka Univ, Osaka, Japan, <sup>5</sup>HWIP, Osaka Univ, Osaka, Japan
- 1P-184**      **Caffeine modulates visual contrast sensitivity of neurons in rat V1**  
Keisuke Tsunoda<sup>1</sup>, Akinori Sato<sup>1,3,4</sup>, Ryo Mizuyama<sup>1,5</sup>, Satoshi Shimegi<sup>1,2</sup>  
<sup>1</sup>Grad Sch Frontier Biosci, Osaka Univ, Osaka, Japan, <sup>2</sup>Grad. Sch. Med. Osaka Univ, Osaka, Japan, <sup>3</sup>Research Fellowship of JSPS, Tokyo, Japan, <sup>4</sup>IPBS, Osaka Univ, Osaka, Japan, <sup>5</sup>HWIP, Osaka Univ, Osaka, Japan
- 1P-185**      **Neuronal network model of photoreceptor-horizontal cell-bipolar cell retinal network for edge detection**  
Keiichiro Inagaki, Seiya Imanaka  
Dept Robotic Science and Technology, Chubu Univ, Aichi, JAPAN
- 1P-186**      **A mathematical model predicts functional properties of rodent visual cortical neurons**  
Masanobu Miyashita<sup>1</sup>, Shigeru Tanaka<sup>2</sup>  
<sup>1</sup>National Institute of Technology Numazu College, Japan, <sup>2</sup>The University of Electro-Communications, Japan
- 1P-187**      **Anti-correlation of miniature eye and head movement reveals vestibular ocular reflex in a micrometer scale**  
Hiroyuki Fujie<sup>1,3</sup>, Yasuto Tanaka<sup>2,3</sup>  
<sup>1</sup>Paris Miki Inc. R&D, Hyogo, Japan, <sup>2</sup>Neuromathematics Laboratory, Hyogo, Japan, <sup>3</sup>School of Sci. and Tech., Kwansei Gakuin Univ., Hyogo, Japan
- 1P-188**      **Involvement of neurons preferring low-contrast visual stimuli in an orientation discrimination task in rat primary visual cortex**  
Rie Kimura<sup>1,2</sup>, Yumiko Yoshimura<sup>1,2</sup>  
<sup>1</sup>Div Visual Info Process, NIPS, Okazaki, Japan, <sup>2</sup>Dept Physiol Sci, SOKENDAI, Okazaki, Japan
- 1P-189**      **Oscillatory feedforward and feedback responses to supra- and near-threshold visual targets**  
Kenichi Yuasa<sup>1,2</sup>, Hiromasa Takemura<sup>1,2</sup>, Isamu Motoyoshi<sup>3</sup>, Kaoru Amano<sup>1,2</sup>  
<sup>1</sup>CiNet, NICT, Osaka, Japan, <sup>2</sup>Grad Sch of Front Biosci, Osaka Univ, Osaka, Japan, <sup>3</sup>Dept Life Sci, Grad Sch Arts & Sci, Univ of Tokyo, Tokyo, Japan
- 1P-190**      **Decoding of depth information from human brain activity**  
Akira Murakami<sup>1</sup>, Kshitij Dwivedi<sup>2</sup>, Yukiyasu Kamitani<sup>1,2</sup>  
<sup>1</sup>Graduate school of informatics Kyoto University, <sup>2</sup>ATR Computational Neuroscience Laboratories, Kyoto 619-0288, Japan
- 1P-191**      **Spatial organization of occipital white matter tracts in marmoset**  
Takaaki Kaneko<sup>1,2</sup>, Hiromasa Takemura<sup>3,4</sup>, Franco Pestilli<sup>5</sup>, Afonso C Silva<sup>6</sup>, Frank Q Ye<sup>6</sup>, David A Leopold<sup>6</sup>  
<sup>1</sup>RIKEN Brain Science Institute, Saitama, Japan, <sup>2</sup>Department of Physiology, Keio University School of Medicine, Tokyo, Japan, <sup>3</sup>Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology, Osaka, Japan, <sup>4</sup>Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan, <sup>5</sup>Departments of Psychological and Brain Sciences, Indiana University, Bloomington, IN, USA, <sup>6</sup>National Institutes of Health, Bethesda, MD, USA



- 1P-192**      **Physiological experiments *in vitro* and numerical simulations for modeling spatio-temporal spike dynamics in mouse retinal ganglion cells**  
Yuki Kashiwagi, Takashi Furusawa, Tetsuya Yagi, Yuki Hayashida  
*Division of Electrical, Electronic and Information Engineering, Graduate School of Engineering Osaka University*
- 1P-193**      **Selectivity for binocular disparity of anti-correlated stereograms is suppressed for neurons with symmetric tuning curves in macaque area MT**  
Toshihide W Yoshioka<sup>1</sup>, Doi Takahiro<sup>2</sup>, Mohammad Abdolrahmani<sup>3</sup>, Ichiro Fujita<sup>1,4</sup>  
<sup>1</sup>Grad Sch Front Biosci, Osaka Univ, Osaka, Japan, <sup>2</sup>Dept Psychol, Univ of Pennsylvania, Philadelphia, USA, <sup>3</sup>Lab for Neural Circuits and Behavior, RIKEN Brain Sci Inst, Saitama, Japan, <sup>4</sup>CiNet, Osaka Univ and NICT, Osaka, Japan
- 1P-194**      **Opposite effects of blue light inside and outside the blind spot on the brightness at a remote location**  
Marina Saito<sup>1</sup>, Kentaro Miyamoto<sup>2,3,4</sup>, Yusuke Uchiyama<sup>1</sup>, Ikuya Murakami<sup>1</sup>  
<sup>1</sup>Dept Psych, Univ of Tokyo, Tokyo, Japan, <sup>2</sup>Dept Physiol, Univ of Tokyo, Tokyo, Japan, <sup>3</sup>Dept Exp Psych, Univ Oxford, Oxford, UK, <sup>4</sup>Japan Society for the Promotion of Science, Tokyo, Japan
- 1P-195**      **Scan path prediction based on a probabilistic saliency map model in free-viewing conditions**  
Tomoya Okazaki<sup>1</sup>, Takeshi Kohama<sup>2</sup>  
<sup>1</sup>Graduate School of Biology-Oriented Science and Technology, Kindai University, Wakayama, Japan, <sup>2</sup>Fac. of Biology-Oriented Science and Technology, Kindai University, Wakayama, Japan
- 1P-196**      **Single unit responses by double pulse stimulation in STS-type retinal prosthesis**  
Tomomitsu Miyoshi<sup>1</sup>, Hiroyuki Kanda<sup>2</sup>, Takeshi Morimoto<sup>2</sup>, Takashi Fujikado<sup>2</sup>  
<sup>1</sup>Dept Integrative Physiology, Grad Sch Med, Osaka Univ, Osaka, Japan, <sup>2</sup>Dept Applied Visual Science, Grad Sch Med, Osaka Univ, Osaka, Japan
- 1P-197**      **Light stimulated responses of retinal bipolar cell in CAST/ELKS knock out mouse with specific expression of GCaMP6f**  
Akari Hagiwara, Yamato Hida, Toshihisa Ohtsuka  
*Dept Biochem, Univ of Yamanashi, Yamanashi, Japan*
- 1P-198**      **Multiscale calcium imaging in the visual cortex of marmoset monkeys**  
Takayuki Hashimoto<sup>1,3</sup>, Masato Uemura<sup>1,3</sup>, Teppei Matsui<sup>1,3</sup>, Tomonari Murakami<sup>1,3</sup>, Kohei Kikuta<sup>1,3</sup>, Toshiki Kato<sup>1,3</sup>, Kenichi Ohki<sup>1,2,3</sup>  
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- 1P-199**      **Color-specific plastic changes in early visual cortex after repetitive combined color and transcranial magnetic stimulation**  
Ryohei Ariyasu<sup>1</sup>, Tsuyoshi Nakajima<sup>1</sup>, Syun Irie<sup>1</sup>, Shinya Suzuki<sup>2</sup>, Yukari Ohki<sup>1</sup>  
<sup>1</sup>Dept. Physiol., Kyorin Univ. Sch. of Med., Tokyo, Japan, <sup>2</sup>Dept. of Phys. Ther., Health Sci. Univ. of Hokkaido, Hokkaido, Japan
- 1P-200**      **Estimation of functional elements of a V1 complex cell using sparse STC**  
Takashi Tsukada<sup>1</sup>, Kota S Sasaki<sup>1,2</sup>, Hirotaka Sakamoto<sup>3</sup>, Yoshihiro Nagano<sup>3</sup>, Yonghao Yue<sup>3</sup>, Masato Okada<sup>3,4</sup>, Izumi Ohzawa<sup>1,2</sup>  
<sup>1</sup>Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan, <sup>2</sup>Center for Information and Neural Networks (CiNet), NICT, Osaka, Japan, <sup>3</sup>Department of Complexity Science and Engineering, Graduate School of Frontier Sciences, Tokyo University, Tokyo, Japan, <sup>4</sup>Brain Science Institute, RIKEN, Saitama, Japan

- 1P-201**      **Cue-invariant Responses in Convolutional Neural Networks**  
Kota S. Sasaki<sup>1,2</sup>, Kaihei Wakitani<sup>1</sup>, Izumi Ohzawa<sup>1,2</sup>  
<sup>1</sup>Grad Sch Front Bio, Osaka Univ, Osaka, <sup>2</sup>CiNet, NICT, Osaka, Japan
- 1P-202**      **Multivariable simulation system for accessing light perception induced by intracortical microstimulation to the primary and secondary visual cortices**  
Naofumi Suematsu, Nobuaki Kishigami, Jinhwan Choi, Atsushi Toda, Tetsuya Yagi  
Dept Eng, Osaka Univ, Osaka, Japan
- 1P-203**      **Spatiotemporal Frequency Dependence of Ocular Following Responses**  
Aya Takemura<sup>1</sup>, Kenichiro Miura<sup>2</sup>  
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## Spinal Cord, Motoneurons and Muscle

- 1P-204**      **Effect of BDNF Inhibitor (ANA12) administration on Neuromuscular coordination**  
Sushant Kaushal, Parul Bali, Akshay Anand  
Post Graduate Institute of medical education and research ,Chandigarh
- 1P-205**      **Altered antidromic field potentials in the corticospinal tract neurons of rats with streptozotocin-induced type-1 diabetes**  
Ken Muramatsu<sup>1</sup>, Masako Ikutomo<sup>1</sup>, Toru Tamaki<sup>1</sup>, Satoshi Shimo<sup>2</sup>, Masatoshi Niwa<sup>3</sup>  
<sup>1</sup>Dept Physical Therapy, Health Science Univ, <sup>2</sup>Dept Occupational Therapy, Health Science Univ, <sup>3</sup>Dept Occupational Therapy, Kyorin Univ
- 1P-206**      **Quantitative study of distal-proximal distribution of target muscles innervated by motoneurons which receive direct connections from corticospinal axons in juvenile rodent**  
Satoshi Fukuda<sup>1</sup>, Takae Ohno<sup>1</sup>, Mizuho Niido<sup>1</sup>, Naoyuki Murabe<sup>1</sup>, Hiroaki Mizukami<sup>2</sup>, Keiya Ozawa<sup>2,3</sup>, Toshihiro Hayashi<sup>1</sup>, Masaki Sakurai<sup>1</sup>  
<sup>1</sup>Dept Physiol, Teikyo Univ Sch Med, Tokyo, Japan, <sup>2</sup>Div Genetic Therapeutics, Jichi Medical Univ, <sup>3</sup>Res Hospital, Inst Medical Sci, Tokyo Univ
- 1P-207**      **Temporal profile of developmental change in corticomotoneuronal direct connection in rodents**  
Takae Ohno<sup>1</sup>, Satoshi Fukuda<sup>1</sup>, Mizuho Niido<sup>1</sup>, Naoyuki Murabe<sup>1</sup>, Hiroaki Mizukami<sup>2</sup>, Keiya Ozawa<sup>2</sup>, Toshihiro Hayashi<sup>1</sup>, Masaki Sakurai<sup>1</sup>  
<sup>1</sup>Dept Physiol, Teikyo Univ Sch Med, Tokyo, Japan, <sup>2</sup>Div Genetic Therap, Ctr Molecular Medicine, Jichi Medical Univ, Tochigi, Japan
- 1P-208**      **Myositis and muscular inclusions in Nakajo-Nishimura syndrome**  
Takashi Ayaki<sup>1</sup>, Kenya Murata<sup>2</sup>, Nobuo Kanazawa<sup>3</sup>, Akinori Uruha<sup>4,5,11</sup>, Ichizo Nishino<sup>4,5</sup>, Koichiro Ohmura<sup>6</sup>, Kazuma Sugie<sup>7</sup>, Shimpei Kasagi<sup>8</sup>, Megumi Mori<sup>9</sup>, Satoshi Ueno<sup>7</sup>, Fukumi Furukawa<sup>3</sup>, Hidefumi Ito<sup>9</sup>, Makoto Urushitani<sup>10</sup>, Ryosuke Takahashi<sup>1</sup>  
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- 1P-209**      **The projection pattern from pontine and medullary paramedian reticular formation to facial nucleus in mice**  
Masao Horie, Satoshi Kusumi, Masahiro Shibata  
*Dept Anat & Neurosci, Grad Sch Med, Kagoshima Univ, Kagoshima*

## Cerebellum

- 1P-210**      **Calcium imaging of the cerebellar mossy fiber activities during forelimb movements in mouse**  
Satoshi Manita<sup>1</sup>, Koji Ikezoe<sup>1</sup>, Sato Masaaki<sup>2,3</sup>, Ohkura Masamichi<sup>2,3</sup>, Nakai Junichi<sup>2,3</sup>, Hayashi Yasunori<sup>4</sup>, Kazuo Kitamura<sup>1</sup>  
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- 1P-211**      **The relationship between prediction-based feedforward motor control during loading task and motor learning during lever pressing task**  
Tetsuo Ota<sup>1</sup>, Yui Kikuchi<sup>1</sup>, Mitsugu Yoneda<sup>1</sup>, Yasuharu Koike<sup>2</sup>, Takako Ohno-Shosaku<sup>1</sup>  
<sup>1</sup>*Fac. Health Sci., Kanazawa Univ, Kanazawa, Japan*, <sup>2</sup>*Inst. Innov. Res., Tokyo Tech., Yokohama, Japan*
- 1P-212**      **Anatomical evidence for a direct projection from Purkinje cells in the mouse cerebellar vermis to medial parabrachial nucleus**  
Mitsuhiro Hashimoto<sup>1</sup>, Akihiro Yamanaka<sup>2</sup>, Shigeki Kato<sup>3</sup>, Manabu Tanifuji<sup>4</sup>, Kazuto Kobayashi<sup>3</sup>, Hiroyuki Yaginuma<sup>1</sup>  
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- 1P-213**      **Eye-hand coordination in hereditary spinocerebellar degeneration**  
Satomi Terada-Inomata<sup>1</sup>, Shin-Ichi Tokushige<sup>2</sup>, Shun-Ichi Matsuda<sup>3</sup>, Masashi Hamada<sup>4</sup>, Yoshikazu Ugawa<sup>5</sup>, Shoji Tsuji<sup>4,6</sup>, Yasuo Terao<sup>1</sup>  
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- 1P-214**      **Mitigation of spinocerebellar ataxia type 3 pathology by activation of RAR-related orphan receptor alpha.**  
Masashi Watanabe, Ayumu Konno, Chiaki Hoshino, Hirokazu Hirai  
*Dept Neurophysiol, Gunma Univ, Maebashi*
- 1P-215**      **The distribution of the oculomotor neural integrator neurons that project to the vestibulo-cerebellum**  
Taketoshi Sugimura, Yasuhiko Saito  
*Dept. Neurophysiol, Nara Med Univ, Nara, Japan*
- 1P-216**      **Role of NMDA receptors during the sensory information processing in cerebellar granule cell layer in vivo in mice**  
Yan-Hua Bing, Xi Chen Wang, Lai De Qiu, Jian Guang Zhang, Hua Yan Bing  
*Yanbian University, China*

- 1P-217**      **Age-related changes in prediction-based motor control assessed by loading task in healthy volunteers**  
Yui Kikuchi<sup>1</sup>, Sumika Matsushima<sup>1</sup>, Sayuri Nakagawa<sup>2</sup>, Ryo Sakata<sup>1</sup>, Mitsugu Yoneda<sup>1</sup>, Yasuharu Koike<sup>3</sup>  
<sup>1</sup>Fac. Health Sci, Kanazawa Univ, Kanazawa, Japan, <sup>2</sup>Medical Corporation Ioukai, Japan, <sup>3</sup>Inst. Innov. Res., Tokyo Tech., Yokohama, Japan
- 1P-218**      **Regulation of reflex eye movement and its adaptation by norepinephrine in the cerebellar flocculus**  
Takuma Inoshita, Tomoo Hirano  
*Dept Biophys, Grad Sch Sci, Kyoto Univ, Kyoto, Japan*
- 1P-219**      **Cerebellar outputs modulate neuronal activity in the primary motor cortex during movement execution in macaque monkeys.**  
Nobuya Sano<sup>1,2</sup>, Yoshihisa Nakayama<sup>1</sup>, Eiji Hoshi<sup>1</sup>, Satomi Chiken<sup>3,4</sup>, Atsushi Nambu<sup>3,4</sup>, Yukio Nishimura<sup>1</sup>  
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- 1P-220**      **Relation of motor control with cerebellar motor learning in cerebellar degeneration**  
Takeru Honda<sup>1,2,3,4</sup>, Kyota Bando<sup>2</sup>, Hirotaka Yoshida<sup>5</sup>, Arito Yodu<sup>6</sup>, Toshiyuki Kondo<sup>5</sup>, Takanori Yokota<sup>4</sup>, Kinya Ishikawa<sup>4</sup>, Hidehiro Mizusawa<sup>2,7</sup>, Soichi Nagao<sup>3</sup>, Takashi Hanakawa<sup>2</sup>, Shinji Kakei<sup>1</sup>  
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## Basal Ganglia

- 1P-221**      **Activation of nicotinic acetylcholine receptors modulates excitatory inputs in the striatal cholinergic neurons**  
Masami Miura, Ritsuko Inoue, Sakura Nakauchi  
*Neurophysiology, Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan*
- 1P-222**      **The origin of LFP in striatum and thalamus**  
Takuma Tanaka<sup>1</sup>, Kouichi C Nakamura<sup>2</sup>  
<sup>1</sup>Fac Data Science, Shiga Univ, Shiga, Japan, <sup>2</sup>MRC Brain Network Dynamics Unit, Univ Oxford, Oxford, UK
- 1P-224**      **The unique complementary distribution of dopamine receptor D1 and D2 in the caudal striatum of rodents**  
Kumiko Ogata, Fuyuki Karube, Yasuharu Hirai, Fumino Fujiyama  
*Dept Brain Sci, Doshisha Univ, Kyoto, Japan*
- 1P-225**      **Automatic time-recording test apparatus for marmoset using Raspberry pi**  
Takao Oishi, Louie Ueno, Masahiko Takada  
*Sect Systems Neurosci, Primate Res Inst, Kyoto Univ, Inuyama*

- 1P-226** Dopamine receptor D1R and muscarinic acetylcholine receptor at the striatum need to run at gradually accelerated Step-Wheel task  
Toru Nakamura<sup>1</sup>, Sasaoka Toshikuni<sup>2</sup>, Yagi Takeshi<sup>1</sup>, Kitsukawa Takashi<sup>1</sup>  
<sup>1</sup>Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan, <sup>2</sup>Brain Research Institute, Niigata University, Niigata, Japan
- 1P-227** Role of G protein-regulated inducer of neurite outgrowth 3 (GRIN3) in  $\beta$ -arrestin 2-Akt signaling and dopaminergic behaviors  
Yasumasa Mototani<sup>1</sup>, Satoshi Okumura<sup>1</sup>, Tadashi Okamura<sup>2</sup>  
<sup>1</sup>Dept Physiol, Univ of Tsurumi, Yokohama, Japan, <sup>2</sup>Dept Laboratory Animal Medicine, Research Institute, NCGM, Tokyo, Japan
- 1P-228** Characterization of ZIF268/EGR1-positive cell clusters asymmetrically located in the ventromedial globus pallidus  
Munenori Kanemoto, Tomoya Nakamura, Masafumi Kawaguchi, Hiroyuki Ichijo  
Dept anat, Univ of Toyama, Toyama, Japan
- 1P-229** Elucidation of motor control mechanism using genetically mice harboring tetracycline regulated expression of D1/D2 dopamine receptors  
Toshikuni Sasaoka<sup>1</sup>, Asako Sato<sup>2</sup>, Satomi Chiken<sup>3</sup>, Tadashi Okubo<sup>2</sup>, Manabu Abe<sup>1</sup>, Meiko Kawamura<sup>1</sup>, Nae Saito<sup>1</sup>, Kanako Oda<sup>1</sup>, Takenori Sakuma<sup>1</sup>, Sumika Uchiyama<sup>1</sup>, Mitsutoshi Abe<sup>1</sup>, Minoru Tanaka<sup>1</sup>, Yoshitaka Yamamoto<sup>1</sup>, Yukihiko Jimbo<sup>1</sup>, Toshiya Sato<sup>2</sup>, Nobuyoshi Fujisawa<sup>1</sup>, Kenji Sakimura<sup>1</sup>, Atsushi Nambu<sup>3</sup>  
<sup>1</sup>Brain Research Institute, Niigata University, Niigata Japan, <sup>2</sup>Kitasato Univ Sch Med, Sagami-hara, Japan, <sup>3</sup>National Institute for Physiological Science, Aichi, Japan
- 1P-230** Cortical control of monkey subthalamic nucleus by the hyperdirect and indirect pathways  
Zlata Polyakova<sup>1,2</sup>, Nobuhiko Hatanaka<sup>1,2</sup>, Satomi Chiken<sup>1,2</sup>, Atsushi Nambu<sup>1,2</sup>  
<sup>1</sup>Div System Neurophysiol, Natl Inst Physiol Sci, Okazaki, Aichi, Japan, <sup>2</sup>Dept Physiol Sci, SOKENDAI, Okazaki, Aichi, Japan
- 1P-231** Evaluation of cell type dependence for cortical innervation onto the globus pallidus in rodent  
Fuyuki Karube, Fumino Fujiyama  
Grad Sch Brain Sci, Doshisha Univ, Kyoto
- 1P-232** Comparison of neuronal activity between the striatum and cerebellum for beat-based timing  
Masashi Kameda, Masaki Tanaka  
Dept Physiol, Hokkaido Univ Sch Med, Hokkaido, Japan
- 1P-233** Parvalbumin-producing striatal interneurons receive excitatory inputs onto proximal dendrites from the motor thalamus  
Yasutake Nakano, Fuyuki Karube, Yasuharu Hirai, Fumino Fujiyama  
Dept Brain Sci, Doshisha Univ, Kyoto, Japan

## Voluntary Movement

- 1P-234** Neural oscillations in the marmoset parietal cortex during a saccadic task  
Liya Ma<sup>1</sup>, Lauren Schaeffer<sup>1</sup>, Kevin Johnston<sup>2</sup>, Stefan Everling<sup>1,2,3</sup>  
<sup>1</sup>Robarts Research Institute, University of Western Ontario, <sup>2</sup>Department of Physiology and Pharmacology, University of Western Ontario, <sup>3</sup>Brain and Mind Institute, University of Western Ontario

- 1P-235**      **Lateralized premotor activity in the motor cortex encompasses the free will for lateralized movement**  
Takuma Kobayashi<sup>1</sup>, Masaaki Sato<sup>1,2,3</sup>, Masamichi Ohkura<sup>2,3</sup>, Junichi Nakai<sup>2,3</sup>, Yasunori Hayashi<sup>4</sup>, Hitoshi Okamoto<sup>1</sup>  
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- 1P-236**      **Lateralized limb representation of posterior parietal cortex neurons during forelimb movements of the rat**  
Shogo Soma, Junichi Yoshida, Satoshi Nonomura, Yutaka Sakai, Yoshikazu Isomura  
*Brain Sci Inst, Tamagawa Univ, Tokyo*
- 1P-237**      **Final axonal targets of the corticospinal neurons which over-projected to the C7 spinal cord in juveniles**  
Naoyuki Murabe, Masaki Sakurai  
*Dept Physiol, Teikyo Univ Sch Med, Tokyo, Japan*
- 1P-238**      **Laterality for forelimb-movements in motor cortex in a hemiparkinsonian rat model**  
Alain A Rios, Shogo Soma, Junichi Yoshida, Masanori Kawabata, Yutaka Sakai, Yoshikazu Isomura  
*Tamagawa University Brain Science Institute*
- 1P-239**      **Neuronal activity in cat premotor areas in the ventral bank of the cruciate sulcus during visually-guided locomotion.**  
Toshi Nakajima<sup>1,2</sup>, Nicolas Fortier-Lebel<sup>2</sup>, Nabiha Yahiaoui<sup>2</sup>, Trevor Drew<sup>2</sup>  
<sup>1</sup>Res Cent for Brain Function & Medical Engineering, Asahikawa Medical Univ, Hokkaido, Japan, <sup>2</sup>Dept Neurosci, Facult Med, Univ of Montreal, Montreal, Canada
- 1P-240**      **Effect of visual feedback type on inter-manual transfer of visuomotor force production learning**  
Jack De Havas<sup>1,2,3</sup>, Patrick Haggard<sup>2</sup>, Hiroaki Gomi<sup>1</sup>, Sven Bestmann<sup>4</sup>, Yuji Ikegaya<sup>3,5</sup>, Nobuhiro Hagura<sup>3,6</sup>  
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- 1P-241**      **Increasing LFP theta power reflects protecting motor plans from an interruption in primate motor areas**  
Ryosuke Hosaka<sup>1</sup>, Hidenori Watanabe<sup>2</sup>, Toshi Nakajima<sup>3</sup>, Hajime Mushiake<sup>2</sup>  
<sup>1</sup>Dept Applied Math, Fukuoka Univ, Fukuoka, <sup>2</sup>Dept Physiol, Tohoku Univ Sch Med, Sendai, <sup>3</sup>Asahikawa Med Univ, Asahikawa, Japan
- 1P-242**      **Dynamic properties of pupil and iris movements: Comparison between pro- and anti-saccade tasks**  
Shimpei Yamagishi, Makoto Yoneya, Shigeto Furukawa  
*NTT Communication Science Laboratories*
- 1P-243**      **Coordination change in gaze and hand movement forms distinct motor memories in visuomotor adaptation**  
Naotoshi Abekawa, Hiroaki Gomi  
*NTT Communication Sci. Labs.*



- 1P-244** Task and layer specific responses during automatic and controlled saccades in marmoset prefrontal and posterior parietal cortex  
Kevin Johnston, Lauren Schaeffer, Stefan Everling  
*University of Western Ontario*
- 1P-245** The effect of the voluntary exercises as a reward behavior for stroke rat  
Chihiro Sato<sup>1,2</sup>, Kazuki Akahira<sup>3</sup>, Shuhei Koeda<sup>1</sup>, Koshi Sumigawa<sup>1</sup>, Misaki Mikami<sup>2</sup>, Junko Yamada<sup>1</sup>  
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- 1P-246** Distinct parietal regions for adapting to shifts motor error and target error in reaching  
Masato Inoue<sup>1</sup>, Shigeru Kitazawa<sup>1,2,3</sup>  
<sup>1</sup>Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology, and Osaka University, Osaka, Japan, <sup>2</sup>Department of Dynamic Brain Network, Graduate School of Frontier Bioscience, Osaka University, Osaka, Japan, <sup>3</sup>Department of Brain Physiology, Graduate School of Medicine, Osaka University
- 1P-247** EEG Sensorimotor rhythm is associated with the subjective vividness of kinesthetic motor imagery across healthy individuals.  
Hisato Toriyama<sup>1</sup>, Junichi Ushiyama<sup>2,3</sup>  
<sup>1</sup>Graduate School of Media and Governance, Keio University, Kanagawa, Japan, <sup>2</sup>Faculty of Environment and Information Studies, Keio University, Kanagawa, Japan, <sup>3</sup>Department of Rehabilitation Medicine, Keio University School of Medicine, Tokyo, Japan

## Others


- 1P-248** Firing manipulation of parvalbumin-expressing interneurons in the motor cortex of behaving mice  
Kaoru Ide<sup>1</sup>, Kenta Kobayashi<sup>3</sup>, Fuyuki Karube<sup>2</sup>, Fumino Fujiyama<sup>2</sup>, Susumu Takahashi<sup>1</sup>  
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- 1P-249** Sightedness and blindness influence subjective sensory experiences during motor imagery  
Kaoru Amemiya<sup>1</sup>, Tomoyo Morita<sup>2</sup>, Satoshi Hirose<sup>1,3</sup>, Tsuyoshi Ikegami<sup>1,3</sup>, Masaya Hirashima<sup>1,3</sup>, Eiichi Naito<sup>1,3</sup>  
<sup>1</sup>NICT, <sup>2</sup>Graduate School of Engineering, Osaka University, <sup>3</sup>Graduate School of Frontier Biosciences, Osaka University, Osaka
- 1P-250** Switch From Proactive to Reactive Inhibition  
Fan Zhang, Sunao Iwaki  
*National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan*
- 1P-251** Acute treadmill running at different intensities forms intensity-specific functional brain networks  
Hideaki Kasahara, Maina Ishida, Ryoko Morikawa, Ayu Nishii, Takeshi Nishijima, Ichiro Kita  
*Dept Human Health Sci, Tokyo Metropolitan Univ, Tokyo Japan*
- 1P-252** Examination of reproducibility of resting-state fMRI in anesthetized macaque monkeys  
Takamichi Tohyama<sup>1,2,3</sup>, Masaki Fukunaga<sup>2,4</sup>, Reona Yamaguchi<sup>5</sup>, Tetsuya Yamamoto<sup>2</sup>, Norihiro Sadato<sup>2,4</sup>, Tadashi Isa<sup>5</sup>  
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## Neuroendocrine System

- 1P-253**      **Difference in the effect of testosterone to cortisol ratio on the autonomic orienting responses**  
Yuki Oishi  
*NTT Communication Sci Labs, Kanagawa, Japan*
- 1P-254**      **Effect of menthol application on thermoregulatory responses and cFos expression of brain areas in female rats**  
Yuki Uchida<sup>1,2</sup>, Koyuki Atsumi<sup>1</sup>, Nao Koyanagi<sup>1</sup>  
<sup>1</sup>Fac. Human Life and Env., Nara Women Univ., <sup>2</sup>Dept. Biol., Kansai Med. Univ., Osaka, Japan
- 1P-255**      **Intermittent hypoxia up-regulates peptide YY, glucagon-like peptide-1, and neurotensin mRNAs in human enteroendocrine Caco-2 cells**  
Ryogo Shobatake<sup>1,2,3</sup>, Asako Itaya-Hironaka<sup>1</sup>, Akiyo Yamauchi<sup>1</sup>, Mai Makino<sup>1</sup>, Sumiyo Sakuramoto-Tsuchida<sup>1</sup>, Tomoko Uchiyama<sup>1</sup>, Hiroyo Ota<sup>1</sup>, Kazuma Sugie<sup>2</sup>, Satoshi Ueno<sup>2</sup>, Shin Takasawa<sup>1</sup>  
<sup>1</sup>Department of Biochemistry, Nara Medical University, <sup>2</sup>Department of Neurology, Nara Medical University, <sup>3</sup>Department of Neurology, Nara City Hospital
- 1P-256**      **Oxytocin signaling in the dorsal raphe nucleus regulates maternal care under negative energy conditions**  
Yoshikage Muroi, Motoyuki Fujisaki, Toshiaki Ishii  
*Dept Vet, Obihiro Univ.*
- 1P-257**      **Hippocampal-derived Androgen and Estrogen Rapidly Modulate Synaptic Plasticity**  
Mika Soma<sup>1,2</sup>, Jonghyuk Kim<sup>1</sup>, Suguru Kawato<sup>1,2</sup>  
<sup>1</sup>Dept Cognitive Neuroscience, Teikyo Univ, Tokyo, Japan, <sup>2</sup>Dept Urology, Juntendo Univ, Tokyo, Japan
- 1P-258**      **Time course of anti-anxiety effect of oxytocin in male ICR mice**  
Hiroki Terai<sup>1</sup>, Yukina Yukina<sup>1</sup>, Maika Takeshita<sup>1</sup>, Yusuke Murata<sup>1</sup>, Manabu Ohishi<sup>2</sup>, Masayoshi Mori<sup>1</sup>, Kenji Ohe<sup>1</sup>, Munechika Enjoji<sup>1</sup>  
<sup>1</sup>Dpt Pharmacotherapeutics, Fac Pharmaceut Sci, Fukuoka Univ, <sup>2</sup>Life Pharmacy, Japan
- 1P-259**      **Oxytocin-Oxytocin receptor systems facilitate social defeat posture in male mice**  
Naranbat Nasanbuyan<sup>1</sup>, Masahide Yoshida<sup>1</sup>, Yuki Takayanagi<sup>1</sup>, Ayumu Inutsuka<sup>1</sup>, Katsuhiko Nishimori<sup>2</sup>, Akihiro Yamanaka<sup>3</sup>, Tatsushi Onaka<sup>1</sup>  
<sup>1</sup>Jichi Medical University, Shimotsuke, Japan, <sup>2</sup>Graduate School of Agriculture Science, Tohoku University, Sendai, Japan, <sup>3</sup>Research Institute of Environmental Medicine, Nagoya University, Nagoya, Japan
- 1P-260**      **Participation of glutamatergic systems in the median preoptic nucleus in the drinking response induced by angiotensin II activation of the subfornical organ in rats**  
Akihiko Ushigome<sup>1</sup>, Makoto Takahashi<sup>2</sup>, Yasushi Hayashi<sup>3</sup>, Junichi Tanaka<sup>2</sup>  
<sup>1</sup>Fac of Human Care, Dept of Judo Physical Therapy, Teikyo Heisei Univ, Toshima-ku, Tokyo 170-0013, Japan, <sup>2</sup>Dept of Special Needs Educ, Naruto Univ of Educ, Naruto, Tokushima 772-8502, Japan, <sup>3</sup>Dept of Foods and Human Nutri, Fac of Human Life Sci, Nortre Dome Univ, Okayama 700-8516, Japan
- 1P-261**      **Green Light Inhibits GnRH-I Expression by Stimulating the Melatonin-GnIH Pathway in the Chick Brain**  
Zixu Wang, Jing Cao, Yulan Dong, Yaoxing Chen  
*College of Veterinary Medicine, China Agricultural University, Beijing, China*

- 1P-262** Terminal nerve GnRH3 neurons show juvenile-specific burst firing, which suggests neuropeptide release  
Chie Umatani, Yoshitaka Oka  
*Dept of Biol Sci, Grad Sch of Sci, the Univ of Tokyo*
- 1P-263** Identification and functional characterization of neurons innervating the steroid hormone biosynthesis organ in *Drosophila*  
Eisuke Imura<sup>1</sup>, Shu Kondo<sup>2</sup>, Hiromu Tanimoto<sup>3</sup>, Tom Kazimiers<sup>4</sup>, Albert Cardona<sup>4</sup>, Ryusuke Niwa<sup>5</sup>, Yuko Shimada-Niwa<sup>6</sup>  
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- 1P-264** Identification of neural inputs to the neuropeptide Y neurons in the dorsomedial hypothalamus using monosynaptic retrograde tracing  
Shunji Yamada<sup>1</sup>, Yoon Mi Oh<sup>1</sup>, Takuma Mori<sup>2</sup>, Sonny Bovee<sup>1</sup>, Atsushi Tsujimura<sup>3</sup>, Masaki Tanaka<sup>1</sup>  
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## Neuroimmunology

- 1P-265** A CRF-R1-Mediated Suppression of Anandamide Signaling is Necessary for Colitis-Induced Anxiety  
 Haley Alleson Vecchiarelli, Kaitlyn Tan, Maria Morena, Catherine Keenan, Alessia Santori, Martin Sticht, Vincent Chiang, Kira Leidl, Winnie Ho, Keith A Sharkey, Matthew N Hill  
*Hotchkiss Brain Institute, University of Calgary*
- 1P-266** Localization and functions of TRPM8-expressing neuron in mouse hypothalamus  
Kaho Okamoto<sup>1</sup>, Yasunori Takayama<sup>2</sup>, Makoto Tominaga<sup>2</sup>, Seiji Miyata<sup>1</sup>  
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## Sleep and Biological Rhythms

- 1P-267** Changes in human brain network connectivity during sleep and wakefulness - a study of neural propagation evoked by single-pulse electrical stimulation  
Kiyohide Usami<sup>1,2,3</sup>, Anna Korzeniewska<sup>2</sup>, Riki Matsumoto<sup>3</sup>, Takefumi Hitomi<sup>4</sup>, Takeharu Kunieda<sup>7</sup>, Nobuhiro Mikuni<sup>8</sup>, Katsuya Kobayashi<sup>3</sup>, Takayuki Kikuchi<sup>5</sup>, Kazumichi Yoshida<sup>5</sup>, Susumu Miyamoto<sup>5</sup>, Ryosuke Takahashi<sup>3</sup>, Akio Ikeda<sup>6</sup>, Nathan E Crone<sup>2</sup>  
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- 1P-268** The claustrum induces widespread down-state in the neocortex  
Kimiya Narikiyo, Momoko Shiozaki, Yoshihiro Yoshihara  
*RIKEN BSI, Saitama, Japan*

- 1P-269 Network organization of cortical neurons across waking and sleep in naturally behaving mice**  
Kaoru Ohyama-Uchiyama<sup>1</sup>, Keiichi Morikuni<sup>2</sup>, Sumire Matsumoto<sup>1</sup>, Momo Matsuda<sup>2</sup>, Yuichi Makino<sup>3</sup>, Thomas J McHugh<sup>3</sup>, Tetsuya Sakurai<sup>2</sup>, Masashi Yanagisawa<sup>1</sup>, Robert W Greene<sup>1,4</sup>, Kaspar E Vogt<sup>1</sup>  
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- 1P-270 Survival rate of aged mice under a chronic jet lag condition**  
Yoshiaki Yamaguchi, Hitoshi Okamura  
*Dept Systems Biology, Kyoto Univ, Kyoto, Japan*
- 1P-271 Real-time sleep staging for mice**  
Pimpimon Nondhalee<sup>1</sup>, Taro Tezuka<sup>2,3</sup>, Shuntaro Izawa<sup>4</sup>, Hirotaka Obo<sup>1</sup>, Akihiro Yamanaka<sup>4</sup>, Masaki Yoshie<sup>5</sup>, Takeshi Sakurai<sup>1,6</sup>, Masanori Sakaguchi<sup>1</sup>  
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- 1P-272 MCH neurons impair memory during sleep**  
Shuntaro Izawa<sup>1,2,3</sup>, Ryo Inoue<sup>1,3</sup>, Srikanta Chowdhury<sup>1,3</sup>, Yasutaka Mukai<sup>1,2,3</sup>, Daisuke Ono<sup>1,3</sup>, Akihiro Yamanaka<sup>1,3</sup>  
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- 1P-273 Behavioral analysis: role of MCH neurons in cataplexy**  
Chi Jung Hung, Daisuke Ono, Akihiro Yamanaka  
*Department of Neuroscience II, Research Institute of Environmental Medicine, Nagoya University, Nagoya, Japan*
- 1P-274 The involvement of hypocretin in an inescapable footshock stimulation-induced REM sleep alteration**  
Yun Lo<sup>1</sup>, Fang-Chia Chang<sup>1</sup>, Pei-Lu Yi<sup>2</sup>  
<sup>1</sup>Graduate Institute of Veterinary Medicine, National Taiwan University, Taiwan, <sup>2</sup>Department of Sport Management, Aletheia University, Taiwan
- 1P-275 The carbachol-induced beta oscillations were modulated by diurnal rhythm in rat hippocampal slices**  
Masaya Shigemoto, Kiyohisa Natsume  
*Grad Sch of Life Sci, Kyutech, Fukuoka, Japan*
- 1P-276 Effect of monochromatic light on circadian rhythmic expression of clock genes in the hypothalamus of chick**  
Yaoxing Chen, Zixu Wang, Jing Cao, Yulan Dong  
*College of Veterinary Medicine, China Agricultural University, Beijing, China*
- 1P-277 Cholinergic "brake" Lynx1 couples attentional suppression to sleep need**  
Yuichi Makino<sup>1,2</sup>, Rebecca Reh<sup>1</sup>, Wynne Stagnaro<sup>1</sup>, Koya Osada<sup>1</sup>, Allyson Covello<sup>1</sup>, Takao K Hensch<sup>1,2</sup>  
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- 1P-278** **Effects of network oscillations on mRNA translation in the hippocampus**  
 James Delorme, Varna Kodoth, Sara Aton  
*University of Michigan*
- 1P-279** **The Detection of cAMP-repressing Activity of an SCN-enriched Orphan G-protein-coupled Receptor Gpr176**  
 Tianyu Wang, Masao Doi, Hitosi Okamura  
*Kyoto University Graduate School of Pharmaceutical Sciences Department of System Biology, Graduate School of Pharmaceutical Sciences*
- 1P-280** **Effects of central serotonergic ablation on sleep/wake behavior in mice**  
 Kanako Iwasaki<sup>1</sup>, Haruna Komiya<sup>1</sup>, Miyo Kakizaki<sup>1</sup>, Chika Miyoshi<sup>1</sup>, Manabu Abe<sup>2</sup>, Kenji Sakimura<sup>2</sup>, Hiromasa Funato<sup>1,3</sup>, Masashi Yanagisawa<sup>1,4,5</sup>  
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## Others

- 1P-281** **Astrocyte Ca<sup>2+</sup> activation in mouse preoptic area elevates body temperature.**  
 Yuichi Hiraoka<sup>1</sup>, Haruka Takigawa<sup>1</sup>, Tomomi Aida<sup>1,2</sup>, Kenji F Tanaka<sup>3</sup>, Kohichi Tanaka<sup>1</sup>  
<sup>1</sup>Laboratory of Molecular Neuroscience, Medical Research Institute, Tokyo Medical and Dental University, Tokyo, Japan, <sup>2</sup>Feng Lab, McGovern Institute for Brain Research at MIT, Massachusetts Institute of Technology, Cambridge, USA, <sup>3</sup>Department of Neuropsychiatry, Keio University School of Medicine
- 1P-282** **Activation of peroxisome proliferator-activated receptors exerts prolonged hypothermia induced by the adenosine A1 receptor agonist.**  
 Miho Sato-Hashimoto, Hiroshi Ohnishi  
*Dep Health Sci, Gunma Univ, Japan*

## Drug Abuse and Addiction

- 1P-283** **ASTROCYTIC DYSFUNCTION IN LATERAL HABENULA CONTRIBUTES TO ANXIETY- AND DEPRESSIVE-LIKE BEHAVIORS DURING ETHANOL WITHDRAWAL**  
 Seungwoo Kang<sup>1,2</sup>, Jing Li<sup>2</sup>, Alex Bekker<sup>2</sup>, Doo-Sup Choi<sup>1</sup>, Jiang-Hong Ye<sup>2</sup>  
<sup>1</sup>Dept. of Molecular Pharmacology and Experimental Therapeutics, Mayo Clinic College of Medicine, Rochester, MN, USA, <sup>2</sup>Dept. of Anesthesiology, Pharmacology, Physiology and Neuroscience, Rutgers, The State University of New Jersey, New Jersey Medical School, Newark, NJ, USA
- 1P-284** **Habitual alcohol-drinking behavior and active ghrelin and serotonergic neurons in the lateral hypothalamus and amygdala of rats**  
 Naoya Miyagi, Yoshimoto Kanji  
*Dept Food sci Biotech, Hiroshima Institute of Technology, Hiroshima, Japan*

## Appetitive and Aversive Learning

- 1P-285      **Tuning of cardiovascular responses in appetitive and aversive classical conditioning tasks**  
Ko Yamanaka, Hidefumi Waki  
*Dept Physiol, Health & Sports Sci, Juntendo Univ, Chiba, Japan*
- 1P-286      **Roles of orexin neurons in motivated behaviors in rats**  
Hiroyuki Mizoguchi<sup>1</sup>, Ayumu Inutsuka<sup>2</sup>, Kentaro Katahira<sup>3</sup>, Kiyofumi Yamada<sup>4</sup>, Akihiro Yamanaka<sup>5</sup>  
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- 1P-287      **Differential roles of dopamine D1 and D2 receptor function in the primate caudate for decision making under aversive context**  
 Yasumasa Ueda, Masaharu Yasuda, Kae Nakamura  
*Department of Physiology, Kansai Medical University, Osaka*
- 1P-288      **Social reward signals of rostromedial tegmental nucleus neurons in macaques**  
Atsushi Noritake<sup>1,2</sup>, Taihei Ninomiya<sup>1,2</sup>, Masaki Isoda<sup>1,2</sup>  
<sup>1</sup>Dept Dev Physiol, Natl Inst Physiol Sci, Okazaki, Japan, <sup>2</sup>Dep Physiol Sci, Grad Univ Adv Stud (Sokendai), Hayama, Japan

## Others

- 1P-289      **Glutamatergic neurons in the mouse medial preoptic area regulate parental motivation**  
Yousuke Tsuneoka<sup>1</sup>, Misaki Minamihara<sup>1,2</sup>, Sachine Yoshida<sup>1,3</sup>, Satoko Oda<sup>1</sup>, Takenori Miyamoto<sup>2</sup>, Masaru Kuroda<sup>1</sup>, Hiromasa Funato<sup>1,4</sup>  
<sup>1</sup>Dept Anat, Toho Univ Sch Med, <sup>2</sup>Lab Behav Neurosci, Fac of Sci, Japan Women's Univ, Tokyo, <sup>3</sup>JST PRESTO, <sup>4</sup>IIIS, Univ. of Tsukuba, Ibaraki
- 1P-290      **Neural activity in the medial orbital cortex of freely moving rats during social interaction: A wireless telemetry study.**  
Saki Ito, Tomoko Shimizu, Mei Ito, Akira Mitani  
*Laboratory of Physiology, Department of Human Health Sciences, Graduate School of Medicine, Kyoto University*

## Executive Function

- 1P-291      **A comparative study of contribution by medial frontal cortical areas to transformation of visual information into action**  
Yoshiya Matsuzaka<sup>1</sup>, Muhammad Ali Haider Awan<sup>2</sup>  
<sup>1</sup>Div Neurosci, Tohoku Med Pharm Univ, Sendai, JAPAN, <sup>2</sup>Dep Neurophysiol, Grad Sch of Med, Tohoku Univ, Sendai, JAPAN
- 1P-292      **Functional hemispheric lateralization of rat dorsolateral striatal dopamine D2 neurons during habit formation**  
Yukitoshi Sakaguchi, Sakurai Yoshio  
*Graduate School of Brain Science, Doshisha University, Kyoto, Japan*

- 1P-293**      **Functional network for the planning of music performance**  
Shoji Tanaka<sup>1</sup>, Eiji Kirino<sup>2,3</sup>  
<sup>1</sup>Dept Information Sci, Sophia Univ, Tokyo, Japan, <sup>2</sup>Dept Psychiatry, Juntendo Univ Sch Med, Tokyo, Japan, <sup>3</sup>Juntendo Shizuoka Hospital, Shizuoka, Japan
- 1P-294**      **Tracing efferents of the dorsal pallium in zebrafish with vesicular stomatitis virus**  
Hisaya Kakinuma, Toshiyuki Shiraki, Mikako Takahoko, Hitoshi Okamoto  
*Lab. for neural circuit dynamics of decision making, RIKEN CBS, Saitama, Japan*
- 1P-295**      **Serveral-minute lasting extreme precision observed in a sub-second timing production task in guinea pigs**  
Chi Wang<sup>1</sup>, Yuta Shiromi<sup>1</sup>, Wen-Jie Song<sup>1,2</sup>, Masataka Nishimura<sup>1</sup>  
<sup>1</sup>Dept of Sensory and Cognitive Physiol, Kumamoto Univ, Kumamoto, Japan, <sup>2</sup>Program for Leading Graduate Schools HIGO Program, Kumamoto Univ, Kumamoto, Japan
- 1P-296**      **Pathway-specific delay activity in the prefrontal cortex during memory-guided behavior**  
Tsukasa Kamigaki, Yang Dan  
*HHMI, Univ of California, Berkeley, USA*
- 1P-297**      **Local field potentials in monkey dorsolateral prefrontal cortex during a shape-manipulation task**  
Kazuhiro Sakamoto<sup>1,2</sup>, Norihiko Kawaguchi<sup>2</sup>, Hajime Mushiake<sup>2</sup>  
<sup>1</sup>Dept Neurosci, Faculty Med, Tohoku MP Univ, Sendai, Japan, <sup>2</sup>Dept Physiol, Tohoku Univ Sch Med, Sendai, Japan
- 1P-298**      **Influence of childhood exercise on cognitive functions and related brain structure and neural network in adulthood: Evaluation using Human Connectome Project pipeline**  
Toru Ishihara<sup>1</sup>, Atsushi Miyazaki<sup>1</sup>, Haruto Takagishi<sup>1</sup>, Takayuki Fujii<sup>1</sup>, Kei Kanari<sup>1</sup>, Kuniyuki Nishina<sup>1</sup>, Muneyoshi Takahashi<sup>1</sup>, Hiroki Tanaka<sup>1</sup>, Toshio Yamagishi<sup>1,2</sup>, Tetsuya Matsuda<sup>1</sup>  
<sup>1</sup>Tamagawa University Brain Science Institute, Tokyo, Japan., <sup>2</sup>Hitotsubashi University, Tokyo, Japan
- 1P-299**      **Contribution of the orbitofrontal cortex to inference based on specific stimulus-reward relationships**  
Masaaki Ogawa  
*Kyoto Univ Grad Sch of Medicine, Kyoto*
- 1P-300**      **Prefrontal-occipitotemporal mechanisms involved in task switching under perceptual uncertainty**  
Kaho Tsumura<sup>1</sup>, Ryuta Aoki<sup>2</sup>, Junichi Chikazoe<sup>3</sup>, Kiyoshi Nakahara<sup>2</sup>, Koji Jimura<sup>1,2</sup>  
<sup>1</sup>Dept Biosciences and Informatics, Keio University, Kanagawa, Japan, <sup>2</sup>Brain Comm, Kochi Univ Tech, Kochi, Japan, <sup>3</sup>Supp Cntr Brain Res, Natl Inst Physiol Sci, Aichi, Japan
- 1P-301**      **The brain activation on executive function in the sense of segmentation by cadence**  
Reiko Shiba<sup>1,3</sup>, Kiyoshi Furukawa<sup>2</sup>, Iku Nemoto<sup>3</sup>  
<sup>1</sup>The University of Tokyo, <sup>2</sup>Tokyo University of the Arts, <sup>3</sup>Tokyo Denki University
- 1P-302**      **Cognitive map of over 100 naturalistic tasks identified in the human brain**  
Tomoya Nakai<sup>1,2</sup>, Shinji Nishimoto<sup>1,2,3</sup>  
<sup>1</sup>Center for Information and Neural Networks (CiNet), NICT, Osaka, Japan, <sup>2</sup>Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan, <sup>3</sup>Graduate School of Medicine, Osaka University, Osaka, Japan



- 1P-303** Dynamics of large-scale brain network for visuospatial working memory in rats studied by multi-channel simultaneous recording  
Masato Ohi<sup>1</sup>, Kei Oyama<sup>2</sup>, Ken-Ichiro Tsutsui<sup>1</sup>  
<sup>1</sup>Laboratory of Systems Neuroscience, Tohoku University Graduate School of Life Sciences, Sendai, Japan, <sup>2</sup>Department of Functional Brain Imaging Research, National Institutes for Quantum and Radiological Science and Technology, Chiba, Japa

## Language and Communication

- 1P-304** Relationship between brain activation associated with Theory of Mind and story comprehension  
Hiroto Ito<sup>1</sup>, Koji Jimura<sup>2</sup>, Asuka Terai<sup>1</sup>  
<sup>1</sup>Faculty of System Information Science, Future University, Hokkaido, Japan, <sup>2</sup>Department of Biosciences and Informatics, Keio University, Kanagawa, Japan
- 1P-305** Three-dimensional model of emotional vocalizations  
Michiko Yoshie<sup>1,2</sup>, Shotaro Akaho<sup>1</sup>, Shinya Yamamoto<sup>1</sup>  
<sup>1</sup>Human Informatics Research Institute, AIST, Ibaraki, Japan, <sup>2</sup>Automotive Human Factors Research Center, AIST, Ibaraki, Japan
- 1P-306** Attentional control of song perception in zebra finch song learning  
Jelena Katic, Yoko Yazaki-Sugiyama  
Okinawa Institute of Science and Technology Graduate University
- 1P-307** Perspective-taking in Japanese sentence comprehension: Linguistic empathy and temporal information processing.  
Shingo Tokimoto<sup>1</sup>, Naoko Tokimoto<sup>2</sup>  
<sup>1</sup>Mejiro University, Tokyo, Japan, <sup>2</sup>Shobi Univ, Saitama, Japan

## Social Behavior

- 1P-308** The Role of Serotonin in Conflicting Decision Making Associated with Social Group Environments  
Yukiori Goto<sup>1</sup>, Young-A Lee<sup>2</sup>  
<sup>1</sup>Primate Res Inst, Kyoto Univ, Aichi, Japan, <sup>2</sup>Dept Food Sci Nutr, Daegu Catholic Univ, Gyeongsan, South Korea
- 1P-309** The Relationship between Social Density and Serotonin and its Relevance to Autism Spectrum Disorder  
Young-A Lee<sup>1</sup>, Tsukasa Obora<sup>2</sup>, Yukiori Goto<sup>2</sup>  
<sup>1</sup>Dept Food Sci Nutr, Daegu Catholic Univ, Gyeongsan, South Korea, <sup>2</sup>Primate Res Inst, Kyoto Univ, Aichi, Japan
- 1P-310** EEG hyper-scanning during cooperative/competitive task performance  
Sunao Iwaki  
National Institute of Advanced Industrial Science and Technology(AIST), Tsukuba, Japan
- 1P-311** FGF21 elevation induced by social-defeat stress is regulated by  $\beta$ -adrenergic receptor  
Airi Otsuka<sup>1,2</sup>, Tetsuya Shiuchi<sup>1</sup>, Hiroyoshi Sei<sup>1</sup>  
<sup>1</sup>Dept Integ Physiol, Inst Biomedical Sci, Tokushima Univ Grad Sch, Tokushima, Japan, <sup>2</sup>JSPS Research Fellow (DC2)

- 1P-312**      **Effects of gender/sex and prenatal sex hormones estimated by 2D:4D digit ratio on the functional brain network organization**  
Tomohiro Donishi<sup>1</sup>, Masaki Terada<sup>2</sup>, Yoshiki Kaneoke<sup>1</sup>  
<sup>1</sup>Dept System Neurophysiology, Wakayama Medical University, Wakayama, Japan, <sup>2</sup>Wakayama-Minami Radiology Clinic, Wakayama, Japan
- 1P-313**      **Hungry zebrafish win social conflict by changing activity of habenula neural circuit**  
Haruna Nakajo<sup>1,2</sup>, Ming-Yi Chou<sup>1,3</sup>, Lior Appelbaum<sup>4</sup>, Hitoshi Okamoto<sup>1,2</sup>  
<sup>1</sup>Lab. for neural circuit dynamics of decision making, RIKEN Center for Brain Science, Saitama, Japan, <sup>2</sup>Graduate School of Arts and Sci, Univ of Tokyo, Tokyo, Japan, <sup>3</sup>Dep of Life Science, National Taiwan Univ, Taipei, Taiwan, <sup>4</sup>The Mina & Everard Goodman Faculty of Life Sciences, Bar-Ilan Univ, Ramat-Gan, Israel
- 1P-314**      **Neural activities during action monitoring in the mirror and the mentalizing systems of macaques**  
Taihei Ninomiya<sup>1,2</sup>, Atsushi Noritake<sup>1,2</sup>, Masaki Isoda<sup>1,2</sup>  
<sup>1</sup>Dept Dev Physiol, Natl Inst Physiol Sci, Okazaki, Japan, <sup>2</sup>Dep Physiol Sci, Grad Univ Adv Stud (Sokendai), Hayama, Japan
- 1P-315**      **Structural and functional brain connectivity of prosocial behavior: Evaluation using Human Connectome Project pipeline**  
Haruto Takagishi<sup>1</sup>, Atsushi Miyazaki<sup>1</sup>, Toru Ishihara<sup>1</sup>, Kei Kanari<sup>1</sup>, Kuniyuki Nishina<sup>1</sup>, Takayuki Fujii<sup>1</sup>, Hiroki Tanaka<sup>1</sup>, Muneyoshi Takahashi<sup>1</sup>, Tetsuya Matsuda<sup>1</sup>, Toshio Yamagishi<sup>1,2</sup>  
<sup>1</sup>Tamagawa Univ Brain Sci Inst, Tokyo, Japan, <sup>2</sup>ICS, Hitotsubashi Univ, Tokyo, Japan
- 1P-316**      **Association between metabolite concentrations in right dorsolateral prefrontal cortex and social preference**  
Takayuki Fujii<sup>1</sup>, Atsushi Miyazaki<sup>1</sup>, Muneyoshi Takahashi<sup>1</sup>, Toru Ishihara<sup>1</sup>, Hiroki Tanaka<sup>1</sup>, Hideto Kuribayashi<sup>2</sup>, Haruto Takagishi<sup>1</sup>, Tetsuya Matsuda<sup>1</sup>  
<sup>1</sup>Tamagawa Univ Brain Sci Inst, <sup>2</sup>Siemens Healthcare KK, Tokyo
- 1P-317**      **Neural and personality correlates of social networking service behavior**  
Kazuma Mori, Masahiko Haruno  
*CiNet, NICT, Osaka*
- 1P-318**      **Social behavior is affected by mast cells activity in mice**  
Daisuke Tanioka, Sachiko Chikahisa, Noriyuki Shimizu, Tetsuya Shiuchi, Airi Otsuka, Hiroyoshi Sei  
*Dept Integ-Physiol, Tokushima Univ Grad Sch, Tokushima, Japan*
- 1P-319**      **Functional mapping of the intercalated cell masses of the amygdala during social buffering of conditioned fear responses in male rats**  
Yasushi Kiyokawa, Shota Minami, Yukari Takeuchi  
*Lab Vet Etho, Univ of Tokyo, Tokyo*
- 1P-320**      **The pathophysiological role of astroglial MHC1 following systemic immune activation**  
Akira Sobue<sup>1,2</sup>, Norimichi Ito<sup>2</sup>, Shan Wei<sup>2</sup>, Kazuhiro Hada<sup>2</sup>, Akira Nakajima<sup>2</sup>, Yuki Murakami<sup>3</sup>, Akihiro Mouri<sup>4</sup>, Yasuko Yamamoto<sup>4</sup>, Toshitaka Nabeshima<sup>4</sup>, Kuniaki Saito<sup>4</sup>, Taku Nagai<sup>2</sup>, Kiyofumi Yamada<sup>2</sup>  
<sup>1</sup>Department of Neuroscience and Pathobiology, Research Institute of Environmental Medicine, Nagoya University, <sup>2</sup>Department of Neuropsychopharmacology and Hospital Pharmacy, Nagoya University Graduate School of Medicine, Nagoya, Japan, <sup>3</sup>Doshisha University Graduate School of Brain Science, Kyotanabe, Japan, <sup>4</sup>Fujita Health University, Graduate School of Health Sciences, Toyoake, Japan

- 1P-321 Activity of oxytocin neurons mediate prosocial behavior in rats of different familiarity**  
Ichiro Kita, Tatsuki Shiiba, Maina Ishida, Hideaki Kasahara, Takeshi Nishijima  
*Department of Human Health Science, Tokyo Metropolitan University*
- 1P-322 Suppressing prosocial preferences to switch behavior: A multi-modal imaging study using the Human Connectome Project (HCP) pipeline and a large-scale sample**  
Hiroki Tanaka<sup>1</sup>, Atsushi Miyazaki<sup>1</sup>, Haruto Takagishi<sup>1</sup>, Takayuki Fujii<sup>1</sup>, Toru Ishihara<sup>1</sup>, Kei Kanari<sup>1</sup>, Kuniyuki Nishina<sup>1</sup>, Muneyoshi Takahashi<sup>1</sup>, Toshio Yamagishi<sup>2</sup>, Tetsuya Matsuda<sup>1</sup>  
<sup>1</sup>Tamagawa Univ Brain Sci Inst, Tokyo, Japan, <sup>2</sup>Hitotsubashi univ, Tokyo, Japan
- 1P-323 The male *Oxtr* KO prairie voles showed higher obsessive behavior and decreased paternal behavior**  
Kengo Horie, Saki Adachi, Saori Yada, Shizu Hidema, Katsuhiko Nishimori  
*Lab Mol Biol, Grad Sch Agric Sci, Tohoku Univ, Sendai*
- 1P-324 The Neural Correlate of Legal Judgment: MRI Experiment on the Legal Mind**  
Takeshi Asamizuya<sup>1,2</sup>, Ai Takahashi<sup>1</sup>, Hiroharu Saito<sup>1</sup>, Ryosuke Higuchi<sup>1</sup>, Go Naruse<sup>1</sup>, Shozo Ota<sup>1</sup>, Junko Kato<sup>1</sup>  
<sup>1</sup>Graduate Schools for Law and Politics, Univ. of Tokyo, <sup>2</sup>Center for Evolutionary Cognitive Sciences
- 1P-325 The effects of decerebration on filial attachment behavior to their mother in rat pups**  
Nami Ohmura, Saori Yano-Nashimoto, Lana Okuma, Hannah Ng, Kumi O Kuroda  
*Lab for Affiliative Social Behavior, RIKEN BSI*
- 1P-326 Female mating preference in isotocin mutant medaka**  
Saori Yokoi<sup>1,2</sup>, Kjetil Hodne<sup>3</sup>, Satoshi Ansai<sup>2</sup>, Teruhiro Okuyama<sup>4</sup>, Yasuhiro Kamei<sup>2</sup>, Yoshihito Taniguchi<sup>5</sup>, Masato Kinoshita<sup>6</sup>, Finn-Arne Weltzien<sup>3</sup>, Shin-Ichi Higashijima<sup>2</sup>, Kiyoshi Naruse<sup>2</sup>, Hideaki Takeuchi<sup>7</sup>  
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- 1P-327 Synergism of Androgen Receptor and Estrogen Receptor  $\alpha$  in the regulation of male-type social behavior**  
Syoko Sagoshi<sup>1</sup>, Kazuhiro Sano<sup>1</sup>, Agmo Anders<sup>1,2</sup>, Sonoko Ogawa<sup>1</sup>  
<sup>1</sup>Laboratory of Behavioral neuroendocrinology, <sup>2</sup>Department of Psychology, University of Tromsø, Norway
- 1P-328 FoxP2 Expression in the Developing Brain of Chicken as an Avian Vocal Non-Learner**  
Chikafusa Bessho, Yamada Shunji, Tanida Takashi, Tanaka Masaki  
*Dept Anatomy and Neurobiology, Kyoto Prefectural Univ Med, Kyoto, Japan*
- 1P-329 Developmental changes and sex differences of ultrasonic vocalization in mice during social interactions**  
Kazuhiro Sano, Kento Saito, Aki Takahasi, Sonoko Ogawa  
*Lab Behavioral Neuroendocrinology, Univ of Tsukuba, Tsukuba, Japan*
- 1P-330 The role of oxytocin expressing neurons in anterior cingulate cortex on helping behavior in rats**  
Atsuhito Yamagishi, Nobuya Sato  
*Department of Integrated Psychological Sciences, Kwansei Gakuin University*

- 1P-331**      **Circadian oscillation of diurnal primate common marmosets (*Callithrix jacchus*). II. Cohabitation on rhythmicity**  
 Yuka Kono<sup>1</sup>, Maho Sugawa<sup>1</sup>, Teruaki Fujinaga<sup>1</sup>, Teruo Kaneko<sup>1</sup>, Aya Shimada<sup>1</sup>, Keioko Tominaga<sup>2</sup>, Hirotaka Onoe<sup>3</sup>, Kaoru Isa<sup>3</sup>, Tadashi Isa<sup>3</sup>, Schwartz J. Schwartz<sup>4</sup>, Hitoshi Okamura<sup>1</sup>  
<sup>1</sup>Dept Systems Biology, Kyoto Univ, Kyoto, Japan, <sup>2</sup>Dept Special Research Promotion, Osaka Univ, Osaka, Japan, <sup>3</sup>Dept Neuroscience, Kyoto Univ, Kyoto, Japan, <sup>4</sup>Department of Neurology, Dell Medical School, The University of Texas at Austin
- 1P-332**      **Circadian oscillation of diurnal primate common marmosets (*Callithrix jacchus*). I. Physiological parameters**  
 Maho Sugawa<sup>1</sup>, Yuka Kono<sup>1</sup>, Teruaki Fujinaga<sup>1</sup>, Nami Sato<sup>1</sup>, Teruo Kaneko<sup>1</sup>, Aya Shimada<sup>1</sup>, Keiko Tominaga<sup>2</sup>, Jean-Michel Fustin<sup>1</sup>, Hirotaka Onoe<sup>3</sup>, Jiro Yamashita<sup>3</sup>, Kaoru Isa<sup>3</sup>, Tadashi Isa<sup>3</sup>, Hitoshi Okamura<sup>1</sup>  
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## Movement Disorders


- 1P-333**      **An evaluation of the effectiveness of multifocal repetitive transcranial magnetic stimulation on cardinal and eye movement control of patients with Parkinson's disease**  
 Tomoo Mano<sup>1,2,4</sup>, Kenichi Okada<sup>3,4</sup>, Koichi Hosomi<sup>1,2</sup>, Yasushi Kobayashi<sup>1,3,4</sup>, Youichi Saitoh<sup>1,2,4</sup>  
<sup>1</sup>Department of Neuromodulation and Neurosurgery, Osaka University Graduate of Medicine, <sup>2</sup>Department of Neurosurgery, Osaka University Graduate of Medicine, <sup>3</sup>Laboratories for Neuroscience, Visual Neuroscience Group, Graduate School of Frontier Biosciences, Osaka University Osaka, <sup>4</sup>Center for Information and Neural Networks, National Institute of Information and Communications Technology
- 1P-334**      **The role of IL-17A on ependymal cells after spinal cord injury**  
 Hisao Miyajima<sup>1</sup>, Shogo Tanabe<sup>2</sup>, Masashi Fujitani<sup>3</sup>, Toshihide Yamashita<sup>1,2,4</sup>  
<sup>1</sup>Department of Molecular Neuroscience, Graduate School of Frontier Biosciences, Osaka University, <sup>2</sup>WPI Immunology Frontier Research Center, Osaka University, <sup>3</sup>Department of Anatomy and Neuroscience, Hyogo College of Medicine, <sup>4</sup>Department of Molecular Neurosciences, Graduate School of Medicine, Osaka University
- 1P-335**      **Is the GBA2 a new modifier for Gaucher's disease and GBA1-related Parkinson's disease?**  
 Etsuro Nakanishi<sup>1</sup>, Norihito Uemura<sup>1</sup>, Hisako Akiyama<sup>2</sup>, Masato Kinoshita<sup>3</sup>, Hodaka Yamakado<sup>1</sup>, Shunichi Takdeda<sup>4</sup>, Yoshio Hirabayashi<sup>2</sup>, Ryosuke Takahashi<sup>1</sup>  
<sup>1</sup>Dept Neurol, Univ of Kyoto, Kyoto, Japan, <sup>2</sup>Laboratory for Molecular Membrane Neuroscience, RIKEN Brain Science Institute Division of Applied Biosciences, <sup>3</sup>Division of Applied Biosciences, Graduate School of Agriculture, Kyoto University, <sup>4</sup>Department of radiation Genetics, Graduate School of Medicine, Kyoto University


## Brain Injury and Trauma

- 1P-337**      **Traumatic Brain Injury Induces Acute Lung Injury via p53 and HMGB1-RAGE Pathways**  
 Jia-Yi Wang, Yu-Chio Wang, Ping-Yen Tsai, Veng-Kai Tang  
 Graduate Institute of Medical Sciences, Taipei Medical University, Taipei, Taiwan

- 1P-338**      **Spatial and temporal pattern of vascular leakage in the brain after exposure to blast-associated shock wave**  
Kiyomasa Nishii<sup>1</sup>, Yasushi Satoh<sup>2</sup>, Toshiyasu Matsui<sup>1</sup>, Masashi Kashitani<sup>3</sup>, Daizo Saitoh<sup>4</sup>, Yasushi Kobayashi<sup>1</sup>  
<sup>1</sup>Dept Anat and Neurobiol, Natl Def Med Coll, Saitama, Japan, <sup>2</sup>Dept Pharmacol, Natl Def Med Coll, Saitama, Japan, <sup>3</sup>Dept Aerospace Engineering, Natl Def Acad, Kanagawa, Japan, <sup>4</sup>Div Traumatol, Natl Def Med Coll, Saitama, Japan
- 1P-339**      **Widespread impairment of glymphatic flow in a focal closed head injury model, photo-injury mouse**  
Masae Azuma, Mitsuhiro Morita  
Dept Biol, Kobe Univ, Kobe, Japan
- 1P-340**      **Newly developed high-throughput screening assay identifies Berberine as a potential drug to protect blood-brain barrier from toxic stresses**  
 Yuki Suzuki<sup>1</sup>, Ken Kadoya<sup>1</sup>, Shinsuke Nakagawa<sup>2</sup>, Takeshi Endo<sup>1</sup>, Yuki Matsui<sup>1</sup>, Rufe Yuen<sup>1</sup>, Tsuyoshi Asano<sup>1</sup>, Norimasa Iwasaki<sup>1</sup>  
<sup>1</sup>Dept Orthop Surg, Faculty of Med and Graduate Sch of Med, Hokkaido University, Sapporo, Hokkaido, Japan, <sup>2</sup>Dept Med Pharm, Nagasaki University Graduate Sch of Biomed Sci, Nagasaki, Japan

## Neurodevelopmental Disorders

- 1P-341**      **Long nanowire arrays get cells to transfect by injecting nucleotide acid in brain tissues in vitro and in vivo.**  
 Rika R.N. Numano<sup>1</sup>, Rika Numano<sup>1</sup>, Yoshihiro Kubota<sup>2</sup>, Yoshihiro Kubota<sup>2</sup>, Shota Yamagiwa<sup>2</sup>, Minako Matsuo<sup>1</sup>, Naobumi Kimura<sup>1</sup>, Makoto Ishida<sup>2</sup>, Takeshi Kawano<sup>2</sup>  
<sup>1</sup>Department of Environmental and Life Sciences, Toyohashi University, Toyohashi University of Technology, <sup>2</sup>Department of Electrical and Electronic Information Engineering, Toyohashi University, Toyohashi University of Technology
- 1P-342**      **Altered Perineuronal Net Formation and Behavioral Impairments in Mouse Offspring after Maternal Immune Activation**  
Hiroshi Ueno<sup>1,2</sup>, Shunsuke Suemitsu<sup>3</sup>, Motoi Okamoto<sup>2</sup>, Takeshi Ishihara<sup>3</sup>  
<sup>1</sup>Dept Med Tec, Kawasaki Univ of Med Welf, Kurashiki, Japan, <sup>2</sup>Dep of Med Tec, Okayama Univ, Okayama, Japan, <sup>3</sup>Psychiatry, Kawasaki Med School, Kurashiki, Japan
- 1P-343**      **Modulation of Dopamine-Serotonin Balance by *Ecklonia Stolonifera* Okamura: Potential Therapeutic Effects on Attention Deficit/Hyperactivity Disorder**  
So-Yeon Jeon<sup>1</sup>, Na-Hyun Kim<sup>1</sup>, Yukiori Goto<sup>2</sup>, Jae-Sue Choi<sup>3</sup>  
<sup>1</sup>Dept Food Sci Nutr, Daegu Catholic Univ, Gyeongsan, South Korea, <sup>2</sup>Primate Res Inst, Kyoto Univ, Aichi, Japan, <sup>3</sup>Dept Food Life Sci, Pukyong Natl Univ, Busan, South Korea
- 1P-344**      **Impairments in social novelty recognition and spatial memory in mice with conditional deletion of *Scn1a* in parvalbumin-expressing cells**  
Ikuo Ogiwara<sup>1,2</sup>, Emi Mazaki<sup>2</sup>, Kazuhiro Yamakawa<sup>2</sup>  
<sup>1</sup>Dept Physiol, Nippon Med Sch, <sup>2</sup>Lab Neurogenetics, RIKEN-BSI
- 1P-345**      **The effect of dopamine on GABAergic transmission of layer V pyramidal cells in the ACC of ADHD model rats**  
Hiromasa Satoh, Fumihito Saitow, Hidenori Suzuki  
Dept Pharmacol, Nippon Medical School, Tokyo, Japan

- 1P-346**      **Generation and characterization of glycine receptor alpha 4 subunit (Gla4) knockout mice**  
Hirofumi Nishizono<sup>1</sup>, Mohamed Ibrahim Darwish<sup>2</sup>, Hitomi Sawada<sup>1</sup>, Keizo Takao<sup>1,2</sup>  
<sup>1</sup>Life Science Research Center, Univ of Toyama, Toyama, Japan, <sup>2</sup>Dept Behavioral Physiol, Univ of Toyama, Toyama, Japan
- 1P-347**      **Firing property of excitatory/inhibitory neurons in Angelman syndrome-derived induced pluripotent stem cells**  
Yoshihiro Hirata<sup>1</sup>, Mitsuru Ishikawa<sup>4</sup>, Hideaki Shiraishi<sup>1</sup>, Daisuke Sato<sup>1</sup>, Shinji Saito<sup>2</sup>, Yukitoshi Takahashi<sup>3</sup>, Hironobu Okuno<sup>4</sup>, Hideyuki Okano<sup>4</sup>, Kiyoshi Egawa<sup>1</sup>  
<sup>1</sup>Dept Pediat, Hokkaido Univ Sch of Med, Sapporo, Japan, <sup>2</sup>Nagoya City Univ Grad Sch of Med Sci, Aichi, Japan, <sup>3</sup>National Epilepsy Center, Shizuoka Inst Epilepsy and Neurological Disorders, Shizuoka, Japan, <sup>4</sup>Dept Physiol, Keio Univ Sch of Med, Tokyo, Japan
- 1P-348**      **Amelioration of Attention Deficits by *Ecklonia Stolonifera* Okamura in Rodents: Potential Therapeutic Effects for Attention Deficit/Hyperactivity Disorder**  
Na-Hyun Kim<sup>1</sup>, So-Yeon Jeon<sup>1</sup>, Jae-Sue Choi<sup>2</sup>, Yukiori Goto<sup>3</sup>, Young-A Lee<sup>1</sup>  
<sup>1</sup>Daegu Catholic Univ, <sup>2</sup>Dept Food Sci Nutri, Pukyong Natl Univ, Busan, Republic of Korea, <sup>3</sup>Primate Res Inst, Kyoto Univ, Aichi, Japan
- 1P-349**      **Comprehensive behavioral analysis of the *Cdk15* knockout mice revealed significant enhancement in anxiety- and fear-related behaviors, unique alteration in depressive-like behaviors and social interaction, and impairment in both acquisition and long-term retention of spatial reference memory**  
 Teruyuki Tanaka<sup>1</sup>, Kosuke Okuda<sup>1</sup>, Keizo Takao<sup>2,3</sup>, Aya Watanabe<sup>1</sup>, Masashi Mizuguchi<sup>1</sup>, Tsuyoshi Miyakawa<sup>2,4</sup>  
<sup>1</sup>Dept Developmental Medical Sciences, Univ of Tokyo, Tokyo, Japan, <sup>2</sup>Center for Genetic Analysis of Behavior, National Institute for Physiological Sciences, Okazaki, Japan, <sup>3</sup>Life Science Research Center, Organization for Promotion of Research, University of Toyama, Toyama, Japan, <sup>4</sup>Division of Systems Medical Science, Fujita Health University, Toyoake, Japan

## Autism Spectrum Disorder

- 1P-350**      **Disrupted auditory functional organization in thalidomide exposed autistic-like animal model**  
Lucila Emiko Tsugiyama, Michiru Eto, Takeshi Ohkawara, Masaaki Narita  
Dept Develop and Regenerative Med, Mie Univ, Grad School of Med
- 1P-351**      **Effect of Propofol, Midazolam, N<sub>2</sub>O, and Sevofluran to Autism ; EEG analysis and sound stimulation**  
Hitoshi Kato<sup>1,2</sup>  
<sup>1</sup>Saitama Social Welfare Corporation, Saitama, Japan, <sup>2</sup>Dept Anesthesiology and Clinical Physiology, Tokyo Medical and Dental University, Tokyo, Japan
- 1P-352**      **Activation of Oxt<sup>+</sup> neurons in LS improve abnormal social behaviors**  
Machi Horiai, Mebae Kinosaki, Saori Yada, Shizu Hidema, Katsuhiko Nishimori  
Lab. of Mol.Biol., Grad. Sch. of Agric. Sci., Tohoku Univ., Japan
- 1P-353**      **Autistic-like traits in mid-brain and cerebellum specific Glt1 conditional knockout mice**  
Saeko Ishida, Hiroshi Ogawa, Kohichi Tanaka  
Medical Research Institute, Tokyo Medical And Dental University, Tokyo, Japan

- 1P-354**      **Enhanced long-term potentiation in non-human primate autism spectrum disorder model**  
Tomofumi Oga<sup>1</sup>, Tohru Kurotani<sup>2</sup>, Satoshi Watanabe<sup>1</sup>, Keiko Nakagaki<sup>1</sup>, Jun Noguchi<sup>1</sup>, Noritaka Ichinohe<sup>1,2</sup>  
*<sup>1</sup>National Center of Neurology and Psychiatry, Tokyo, Japan, <sup>2</sup>RIKEN Brain Science Institute, Saitama, Japan*
- 1P-355**      **Reduced social interaction and communication in N-ethylmaleimide sensitive factor knockout mice**  
Min-Jue Xie<sup>1,2,3</sup>, Keiko Iwata<sup>1,2,3</sup>, Yugo Fukazawa<sup>1,2,4</sup>, Hideo Matsuzaki<sup>1,2,3</sup>  
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- 1P-356**      **Gaze behavior in individuals with Autism Spectrum Disorders (ASD) triggered by facial eye - gaze cues**  
Mrinmoy Chakrabarty<sup>1</sup>, Takao Fukui<sup>1,2</sup>, Makoto Wada<sup>1</sup>  
*<sup>1</sup>Developmental Disorders Section, Research Institute of National Rehabilitation Center for Persons with Disabilities, <sup>2</sup>Faculty of System Design, Tokyo Metropolitan University*
- 1P-357**      **Visualization of oxytocin receptor expressions in neonatal mouse brains via Easi-CRISPR**  
Yukiko U. Inoue<sup>1</sup>, Ryosuke Kaneko<sup>2</sup>, Yuki Morimoto<sup>1</sup>, Takayoshi Inoue<sup>1</sup>  
*<sup>1</sup>Dept Biochem and Cellular Biol, Natl Inst of Neurosci, NCNP, Tokyo, Japan, <sup>2</sup>Gunma Univ. Graduate school of Medicine, Gunma, Japan*
- 1P-358**      **Analysis of cortical synaptic functions in valproate-induced autism model marmosets**  
Satoshi Watanabe<sup>1</sup>, Tohru Kurotani<sup>2</sup>, Tomofumi Oga<sup>1</sup>, Keiko Nakagaki<sup>1</sup>, Jun Noguchi<sup>1</sup>, Masayuki Sekiguchi<sup>3</sup>, Keiji Wada<sup>3</sup>, Noritaka Ichinohe<sup>1,2</sup>  
*<sup>1</sup>Dept Ultrastructural Research, NCNP, Tokyo, Japan, <sup>2</sup>Ichinohe Group, Lab for Molecular Analysis of Higher Brain Function, Riken BSL, Saitama, Japan, <sup>3</sup>Dept Degenerative Neurological Diseases, NCNP, Tokyo, Japan*
- 1P-359**      **Abnormality of postnatal synapse formation/pruning in cerebral cortex of a primate model of ASD**  
Tetsuya Sasaki<sup>1</sup>, Manabe Tomoko<sup>2</sup>, Nakagaki Keiko<sup>2</sup>, Takei Yosuke<sup>1</sup>, Ichinohe Noritaka<sup>2,3</sup>  
*<sup>1</sup>Dept Anat & Neurosci, Fac Med, Univ of Tsukuba, Ibaraki, Japan, <sup>2</sup>Dept Ultrastruc Res, Natl Inst Neurosci, NCNP, Tokyo, Japan, <sup>3</sup>Lab Molecular Analysis of Higher Brain Func, Brain Sci Inst, RIKEN*
- 1P-360**      **Characterization of usual behaviors under group-housing conditions by the Multiple Animals Positioning System in the BTBR T+ tf/J mouse model of autism**  
Nozomi Endo<sup>1</sup>, Manabu Makinodan<sup>2</sup>, Noriko Horii<sup>1</sup>, Nami Somayama<sup>1</sup>, Takashi Komori<sup>2</sup>, Toshifumi Kishimoto<sup>2</sup>, Mayumi Nishi<sup>1</sup>  
*<sup>1</sup>Department of Anatomy and Cell Biology, Nara Medical University, Kashihara, Japan, <sup>2</sup>Department of Psychiatry, Nara Medical University School of Medicine, Kashihara, Japan*
- 1P-361**      **Neural circuit of hypersensitivity derived from high temporal resolution of sensory stimuli: evidence from autism-spectrum disorders**  
Takeshi Atsumi<sup>1</sup>, Masakazu Ide<sup>1</sup>, Yumi Umesawa<sup>1</sup>, Mrinmoy Chakrabarty<sup>1</sup>, Keiichi Yasu<sup>2</sup>, Ayako Yaguchi<sup>3</sup>, Misako Sano<sup>1,4</sup>, Reiko Fukatsu<sup>1</sup>, Makoto Wada<sup>1</sup>  
*<sup>1</sup>National Rehabilitation Center for Persons with Disabilities, <sup>2</sup>The National University Corporation of Tsukuba University of Technology, <sup>3</sup>Department of Psychology, Graduate School of Rikkyo University, <sup>4</sup>National Rehabilitation Center for Children with Disabilities*
- 1P-362**      **Translational regulation of Gtf2i mRNA in neuronal dendrites by Pur α, an RNA binding protein**  
Yoshinori Shirai<sup>1</sup>, Weidong Li<sup>3</sup>, Katsuhiko Tabuchi<sup>2</sup>, Tatsuo Suzuki<sup>2</sup>  
*<sup>1</sup>Dept Neuroplasticity, Shinshu Univ Grad Sch Med, Japan, <sup>2</sup>Dept Mol Cell Physiol, Shinshu Univ Academic Assembly Med, Japan, <sup>3</sup>Bio-X Institute, Shanghai Jiao Tong Univ, China*



- 1P-363**      **Functional analysis of the Fragile X Syndrome-related gene in the retina**  
Taro Chaya, Yuko Sugita, Shuhei Mikusa, Takahisa Furukawa  
*Inst for Protein Res, Osaka Univ, Osaka, Japan*
- 1P-364**      **Recovery effects from Valproate-induced autistic degeneration with bumetanide or oxytocin and possibility of their side effects in cerebellar development**  
Seita Sato<sup>1</sup>, Koichiro Ikai<sup>1</sup>, Yukiko Fueta<sup>2</sup>, Susumu Ueno<sup>2</sup>, Yuko Sekino<sup>3</sup>, Yasunari Kanda<sup>4</sup>, Naohiro Hozumi<sup>5</sup>, Sachiko Yoshida<sup>1</sup>  
<sup>1</sup>Department of Environmental and Life Sciences, Toyohashi University of Technology, Aichi, Japan, <sup>2</sup>University of Occupational and Environmental Health, Fukuoka, Japan, <sup>3</sup>The University of Tokyo, <sup>4</sup>National Institute of Health Sciences, Tokyo, Japan, <sup>5</sup>Department of Electrical Electronic Information Engineering, Toyohashi University of Technology, Aichi, Japan
- 1P-365**      **Regulation of intracellular chloride and GABA-mediated inhibitory function in mice model of Angelman syndrome**  
Kiyoshi KE. Egawa<sup>1</sup>, Hiroki Mutoh<sup>2</sup>, Yoshihiro Hirata<sup>1</sup>, Hideaki Siraishi<sup>1</sup>, Atsuo Fukuda<sup>2</sup>  
<sup>1</sup>Hokkaido Univ. Grad. Sch. Med., Sapporo, <sup>2</sup>Hamamatsu Univ. Sch. Med.
- 1P-366**      **Comparative gene expression profiling between BTBR mice, a mouse model of autism spectrum disorder, and C57BL6/J mice showing high levels of sociality**  
Shota Mizuno<sup>1</sup>, Chiaki Ishii<sup>1</sup>, Hirohide Iwasaki<sup>2</sup>, Shigeo Okabe<sup>2</sup>, Yoshitake Sano<sup>1</sup>, Teiichi Furuichi<sup>1</sup>  
<sup>1</sup>Department of Applied Biological Science, Tokyo University of Science, <sup>2</sup>Dept Cell Biol/Anat, Univ Tokyo, Tokyo, Japan
- 1P-367**      **Effects of missense variations associated with autism spectrum disorder on the processing and function of synaptic adhesion molecule Neuroligin 4X**  
Misaki Kimura, Takafumi Yumoto, Ryota Nagatomo, Yosuke Nao, Taisuke Tomita  
*Lab Neuropath Neurosci, Grad Sch of Pharm Sci, Univ of Tokyo, Tokyo, Japan*
- 1P-368**      **Identification of the molecule involved in neurite outgrowth promoted by autism spectrum disorder-associated Cntn5**  
Yasushi Shimoda, Ayako Tanaka, Yu Ishida, Fumiko Kato  
*Dept Bioeng, Nagaoka Univ Tech, Nagaoka, Japan*

## Schizophrenia

- 1P-369**      **Dopamine-dependent disruption of auditory offset responses in a mice model of schizophrenia**  
Hiroyoshi Inaba<sup>1</sup>, Hisaaki Namba<sup>1</sup>, Hiroaki Tsukano<sup>2</sup>, Katsuei Shibuki<sup>2</sup>, Hiroyuki Nawa<sup>1</sup>  
<sup>1</sup>Dept Mol Neurobiol, Brain Res Inst, Niigata Univ, Niigata, Japan, <sup>2</sup>Dept Neurophysiol, Brain Res Inst, Niigata Univ, Niigata, Japan
- 1P-370**      **Physiological characterization of AMPA receptor positive allosteric modulators PF-04958242 and LY-451395**  
Toshiyuki Ishii<sup>1,2</sup>, Jacob R Stolz<sup>2</sup>, Geoffrey T Swanson<sup>2</sup>  
<sup>1</sup>Dept Physiol, Nippon Med Sch, Tokyo, <sup>2</sup>Dept Pharmacol, Northwestern Univ, Chicago, USA
- 1P-371**      **Molecular profile of female brain relevant to susceptibility to schizophrenia due to maternal infection**  
Zhiqian Yu, Mai Sakai, Yoshie Kikuchi, Chiaki Ono, Yuta Takahashi, Hiroaki Tomita  
*Dept Disaster Psychiatry, IRIDeS, Tohoku University, Sendai, Japan*

- 1P-372**      **Establishment and application of prepulse inhibition in *Drosophila***  
Yutarp Matsumoto, Kazuya Shimiuzu, Junji Yamauchi, Takako Morimoto  
*Tokyo University of Pharmacy and Life Sciences, Tokyo, Japan*
- 1P-373**      **The Effect of Sarcosine in the Amelioration of Schizophrenia-Related Behavioral and Cognitive Deficits in the Mouse Models of NMDAR Hypofunction**  
Wen-Sung Lai, Ju-Chun Pei, Wie-Li Hung, Da-Zhong Luo, Liang-Yin Lu  
*Department of Psychology, National Taiwan University*
- 1P-374**      **Postmortem expression of Iba1 and S100 $\beta$  immunoreactivities in the hippocampal dentate gyrus in patients with schizophrenia.**  
Keiko Tsuchie<sup>1</sup>, Toshiko Tsumori<sup>2</sup>, Sadayuki Hashioka<sup>1</sup>, Tsuyoshi Miyaoka<sup>1</sup>  
<sup>1</sup>*Dep of Psychiatry, Faculty of Medicine, Shimane Univ, Shimane, Japan,* <sup>2</sup>*Dept Nursing, Faculty of Health and Welfare, Prefectural Univ of Hiroshima, Hiroshima Japan*
- 1P-375**      **Eye movement abnormalities and their association with cognitive impairments in schizophrenia**  
Morita Kentaro<sup>1</sup>, Kenichiro Miura<sup>2</sup>, Michiko Fujimoto<sup>3</sup>, Yamamori Hidenaga<sup>3</sup>, Yuka Yasuda<sup>3</sup>, Noriko Kudo<sup>3</sup>, Hirotsugu Azechi<sup>3</sup>, Naohiro Okada<sup>1</sup>, Daisuke Koshiyama<sup>1</sup>, Shintaro Kawakami<sup>1</sup>, Susumu Morita<sup>1</sup>, Manabu Ikeda<sup>3</sup>, Kiyoto Kasai<sup>1</sup>, Ryota Hashimoto<sup>3</sup>  
<sup>1</sup>*Dept Neuropsychiatry, Univ of Tokyo, Tokyo, Japan,* <sup>2</sup>*Dept of Integrative Brain Science, Kyoto Univ, Kyoto, Japan,* <sup>3</sup>*Dept Psychiatry, Osaka Univ, Osaka, Japan*
- 1P-376**      **Altered time perception is associated with positive symptoms of schizophrenia: A meta-analysis**  
Natsuki Ueda<sup>1</sup>, Kazushi Maruo<sup>2</sup>, Keiji Wada<sup>1</sup>, Tomiki Sumiyoshi<sup>1</sup>  
<sup>1</sup>*National Center of Neurology and Psychiatry, 4-1-1, Ogawahigashi, Kodaira, Tokyo, Japan,* <sup>2</sup>*Faculty of Medicine, University of Tsukuba, Ibaraki, Japan*
- 1P-377**      ***In vivo* imaging of  $\alpha$  7 nicotinic acetylcholine receptors in medicated schizophrenia: A pilot study of [11C](R)MeQAA PET.**  
Masamichi Yokokura<sup>1</sup>, Tomoyasu Wakuda<sup>1</sup>, Kyoko Nakaizumi<sup>1</sup>, Yasuhiko Katoh<sup>1</sup>, Yosuke Kamen<sup>1</sup>, Tatsuhiro Terada<sup>1</sup>, Tomoyasu Bunai<sup>1</sup>, Etsuji Yoshikawa<sup>2</sup>, Yasuhiro Magata<sup>1</sup>, Yasuomi Ouchi<sup>1</sup>, Nori Takei<sup>1</sup>, Hidenori Yamasue<sup>1</sup>  
<sup>1</sup>*Hamamatsu Univ. Sch. of Med. Hamamatsu,* <sup>2</sup>*Hamamatsu Photonics KK, Hamamatsu, Japan*
- 1P-378**      **mRNA and miRNA expression profiles of the 22q11.2 deletion mouse model**  
Michinori Koebis, Ryo Saito, Atsu Aiba  
*CDBIM, Grad Sch of Med, Univ of Tokyo, Tokyo, Japan*
- 1P-379**      **Behavioral analysis of the 22q11.2 microdeletion syndrome mouse model**  
Ryo Saito<sup>1,2</sup>, Michinori Koebis<sup>1</sup>, Taku Nagai<sup>3</sup>, Kiyofumi Yamada<sup>3</sup>, Daisuke Mori<sup>4</sup>, Norio Ozaki<sup>4</sup>, Atsu Aiba<sup>1</sup>  
<sup>1</sup>*CDBIM, Grad sch of Med., Univ. of Tokyo, Tokyo, Japan,* <sup>2</sup>*Dept Biol Sci, Grad sch of Sci, Univ of Tokyo, Tokyo, Japan,* <sup>3</sup>*Dept of Neuropsychopharmacol Hosp Pharm, Nagoya Univ, Grad Sch Med, Nagoya, Japan,* <sup>4</sup>*Dept of Psychiatry, Nagoya Univ, Grad Sch of Med, Nagoya, Japan*
- 1P-380**      **Simultaneous measurement of mismatch negativity (MMN) and eye movements in a schizophrenia model of marmosets**  
Masatoshi Yoshida<sup>1,2</sup>  
<sup>1</sup>*Dept System Neuroscience, National Institute for Physiological Sciences, Okazaki, Japan,* <sup>2</sup>*Sch. Life Sci., Grad. Univ. Adv. Stud., Hayama, Japan*

- 1P-381**      **Regulation of Striatal Dopamine Responsiveness by Notch/RBP-J Signaling**  
Kenji Tanigaki  
*Research Institute, Shiga Medical Center*
- 1P-382**      **A meta-analytic study of the relationships between acoustic startle response and prepulse inhibition in C57BL/6J mice**  
Hirotaka Shoji, Akito Nakao, Tsuyoshi Miyakawa  
*Div Sys Med Sci, ICMS, Fujita Health Univ*

## Neuroinformatics and Large Scale Simulation

- 1P-383**      **Scalable simulation of cerebellar corticonuclear microcomplexes using a tile-based neural network simulator on K supercomputer**  
Hiroshi Yamaura<sup>1</sup>, Jun Igarashi<sup>2</sup>, Tadashi Yamazaki<sup>1</sup>  
<sup>1</sup>The University of Electro-Communications, Tokyo, Japan, <sup>2</sup>RIKEN Information Systems Division, Saitama, Japan
- 1P-384**      **Sparse ordinal logistic regression and its application to brain decoding**  
Emi Satake<sup>1</sup>, Majima Kei<sup>1</sup>, Aoki C Syuntaro<sup>2</sup>, Kamitani Yukiyasu<sup>1,2</sup>  
<sup>1</sup>Kyoto University Graduate School of Informatics, <sup>2</sup>ATR Computational Neuroscience Laboratories, Kyoto 619-0288, Japan
- 1P-385**      **Visualizing an individual diversity of marmoset connectome with a pipeline of tractography by diffusion MRI**  
Ken Nakae<sup>1</sup>, Hata Junichi<sup>3</sup>, Skibbe Henrik<sup>1</sup>, Woodward Alexander<sup>3</sup>, Gutierrez Enrique Carlos<sup>2</sup>, Tsukada Hiromachi<sup>2</sup>, Rui Gong<sup>3</sup>, Okano Hideyuki<sup>3</sup>, Ishii Shin<sup>1</sup>  
<sup>1</sup>Grad Informatics, Kyoto Univ, Kyoto, <sup>2</sup>OIST, Okinawa, Japan, <sup>3</sup>RIKEN BSI, Wako, Japan
- 1P-386**      **Neural network-based analysis of simultaneous behavioral and cell-assembly sequence data**  
Keita Watanabe<sup>1</sup>, Tomoki Fukai<sup>1,2</sup>  
<sup>1</sup>RIKEN BSI, Wako, Japan, <sup>2</sup>Univ of Tokyo, Tokyo, Japan

## Others

- 1P-387**      **Molecular roughening and carbon nanotube coating of thin tetrodes for chronic neuronal recording**  
Zifeng Xia, Michael T Lippert, Frank W Ohl, Kentaroh Takagaki  
*Leibniz Institute for Neurobiology Magdeburg*
- 1P-388**      **Development of novel maze system for small animals capable of generating various types of maze**  
Satoshi Hoshino, Kaoru Ide, Susumu Takahashi  
*Lab of Cognitive and Behavioral Neurosci, Grad sch of Brain science, Doshisha Univ, Kyoto, Japan*
- 1P-389**      ***In vivo* wide-field calcium imaging of axonal boutons in the mouse neocortex at synaptic resolution**  
Eriko Yoshida<sup>1</sup>, Shin-Ichiro Terada<sup>1</sup>, Yasuyo H Tanaka<sup>1</sup>, Kenta Kobayashi<sup>2</sup>, Masamichi Ohkura<sup>3</sup>, Junichi Nakai<sup>3</sup>, Masanori Matsuzaki<sup>1</sup>  
<sup>1</sup>Dept Cell Mol Physiol, Univ of Tokyo, Tokyo, Japan, <sup>2</sup>NIPS, Aichi, Japan, <sup>3</sup>Saitama Univ. Brain Science Institute, Saitama

- 1P-390 High-resolution whole mouse brain serial-section electron microscopy**  
Shawn Mikula<sup>1</sup>, Yoshiyuki Kubota<sup>2,3</sup>, Yasuo Kawaguchi<sup>2,3</sup>  
<sup>1</sup>Electron Microscope Laboratory, Keio University School of Medicine, Tokyo, Japan, <sup>2</sup>Division of Cerebral Circuitry, National Institute for Physiological Sciences, Okazaki, Japan, <sup>3</sup>Department of Physiological Sciences, The Graduate University for Advanced Studies (SOKENDAI), Okazaki 444-8787, Japan
- 1P-391 Trajectory analysis of navigation by machine learning: experience-dependent modulation of olfactory behavior in *C. elegans***  
Kotaro Kimura<sup>1,2</sup>, Shuhei Yamazaki<sup>1</sup>, Yosuke Ikejiri<sup>1</sup>, Takuya Maekawa<sup>3</sup>  
<sup>1</sup>Dept. Biol., Grad. Sch. Sci., Osaka Uni, Osaka, Japan, <sup>2</sup>Dept Info and Basic Sci, Grad Sch Natl Sci, Nagoya City Univ, Aichi, Japan, <sup>3</sup>Dept Multimedia Eng, Grad Sch Info Sci Tech, Osaka Univ, Osaka, Japan
- 1P-392 Neuronal recording in the brain of freely moving seabirds**  
Susumu Takahashi<sup>1</sup>, Sakiko Matsumoto<sup>2</sup>, Kaoru Ide<sup>1</sup>, Ken Yoda<sup>2</sup>  
<sup>1</sup>Grad Sch Brain Sci, Doshisha Univ, Kyoto, Japan, <sup>2</sup>Grad Sch Env Studies, Nagoya Univ, Nagoya, Japan
- 1P-393 Trajectory analysis of bio-navigation by using machine learning: comparison between strains artificially selected for duration of death-feigning in the red flour beetle**  
Takuya Maekawa<sup>1</sup>, Kazuya Ohara<sup>1</sup>, Kentarou Matsumura<sup>2</sup>, Ryusuke Fujisawa<sup>3</sup>, Naohisa Nagaya<sup>4</sup>, Takahisa Miyatake<sup>2</sup>  
<sup>1</sup>Grad. Sch. of Inf. Sci. & Tech., Osaka University, Japan, <sup>2</sup>Okayama University, <sup>3</sup>Hachinohe Institute of Technology, <sup>4</sup>Kyoto Sangyo University
- 1P-394 Trajectory analysis of bio-navigation by using machine learning: Time-series data analysis in cricket escape behavior.**  
Matasaburo Fukutomi<sup>1</sup>, Hisashi Shidara<sup>2</sup>, Kazuya Ohara<sup>3</sup>, Kazuya Nishi<sup>4</sup>, Takuto Sakuma<sup>4</sup>, Takuya Maekawa<sup>3</sup>, Ichiro Takeuchi<sup>4</sup>, Hiroto Ogawa<sup>2</sup>  
<sup>1</sup>Grad Sch of Life Sci, Hokkaido Univ, Sapporo, <sup>2</sup>Dept Biol Sci, Fac Sci, Hokkaido Univ, Sapporo, <sup>3</sup>Dept Multimedia Eng, Grad Sch Info Sci Tech, Osaka Univ, Osaka, <sup>4</sup>Dept Comp Sci, Nagoya Inst Tech, Nagoya
- 1P-395 Development of novel methods for rapid and efficient labeling of cleared sample and for tissue clearing with minimal sample deformation for optical imaging in nanoscale**  
Myeongsu Na<sup>1</sup>, Kitae Kim<sup>1</sup>, Sunghoe Chang<sup>1,2</sup>  
<sup>1</sup>Department of Physiology & Biomedical Sciences, Seoul National University College of Medicine, Seoul, Korea, <sup>2</sup>Neuroscience Research Institute, Medical Research Center
- 1P-396 Various spatiotemporal neural activity patterns in mouse hippocampal slices induced by different electric stimuli (II)**  
Yuuta Hamasaki, Shunpei Kawamata, Minoru Saito  
College of Humanities and Sciences, Nihon University, Tokyo, Japan
- 1P-397 Changes of electrocorticogram (ECoG) signals induced by repetitive transcranial magnetic stimulation (rTMS) in monkeys.**  
Kentarō Ogawa<sup>1</sup>, Shinya Nakamura<sup>1</sup>, Takayuki Hosokawa<sup>1</sup>, Toshio Iijima<sup>1</sup>, Yukio Nishimura<sup>2</sup>, Ken-Ichiro Tsutsui<sup>1</sup>  
<sup>1</sup>Lab Sys Neurosci, Tohoku University Graduate School of Life Sciences, Miyagi, Japan, <sup>2</sup>Neural Prosthesis Project, Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan
- 1P-398 Screening technology for potent antibodies modulating endothelial cell functions**  
Takeshi Fukuhara, Nobutaka Hattori  
Dept. of Neurology, Sch. of Med., Juntendo Univ.



1P-399



Neural Prediction of the Target "to BUY" or "NOT to BUY" based upon the ERP- based cognitive BMI.

Ryohei P Hasegawa, Yoshiko Nakamura

*HIRI, AIST*

1P-400



Microneedle-electrode assembled on flexible film; *in vivo* unit recordings from cerebral cortex underneath the dura mater.

Hirohito Sawahata<sup>1</sup>, Shota Yamagiwa<sup>1</sup>, Rika Numano<sup>2</sup>, Takeshi Kawano<sup>1</sup>, Kowa Koida<sup>3,4</sup>

<sup>1</sup>Dept Electrical and Electronic Info Eng, Toyohashi Univ of Tech, Aichi, Japan, <sup>2</sup>Dept Computer Sci and Eng, Toyohashi Univ of Tech, Aichi, Japan, <sup>3</sup>EIRIS, Toyohashi Univ of Tech, Aichi, Japan, <sup>4</sup>Dept Environmental and Life Sci, Toyohashi Univ of Tech, Aichi, Japan

## Axon/Dendrite Growth and Circuit Formation

- 2P-001**      **Semaphorins and their transcriptional regulators limit axonal regeneration after spinal cord injury**  
Yuka Nakamura<sup>1</sup>, Masaki Ueno<sup>1,5</sup>, Hiroshi Nakagawa<sup>2</sup>, Jesse Niehaus<sup>3,5</sup>, Hirohide Takebayashi<sup>4</sup>, Qing R Lu<sup>6</sup>, Masahiko Takada<sup>2</sup>, Yutaka Yoshida<sup>3</sup>  
*<sup>1</sup>Dept Syst Pathol Neurol Dis, Brain Research Institute, Niigata Univ, Niigata, Japan, <sup>2</sup>Syst Neurosci Sect, Primate Research Institute, Kyoto University, Inuyama, Japan, <sup>3</sup>Div Dev Biol, Cincinnati Children's Hospital Medical Center, Cincinnati, USA, <sup>4</sup>Div Neurobiol & Anat, Niigata Univ, Niigata, <sup>5</sup>PREST, JST, Saitama, Japan, <sup>6</sup>Div Exp Hematol Canc Biol, Cincinnati Children's Hospital Medical Center, Cincinnati, USA*
- 2P-002**      **The interaction between Reelin and its novel binding protein is required for dendrite development of cortical upper-layer neurons.**  
Takao Kohno<sup>1</sup>, Makoto Makino<sup>1</sup>, Keisuke Ishii<sup>1</sup>, Yuki Hirota<sup>2</sup>, Takao Honda<sup>2</sup>, Kazunori Nakajima<sup>2</sup>, Mitsuharu Hattori<sup>1</sup>  
*<sup>1</sup>Department of Biomedical Science, Graduate School of Pharmaceutical Sciences, Nagoya City University, <sup>2</sup>Department of Anatomy, Keio University School of Medicine*
- 2P-003**      **Dendritic differentiation of cerebellar Purkinje cells is promoted by Ca<sup>2+</sup>/calmodulin-dependent protein kinase II $\alpha$ , II $\beta$  and IV**  
Masahiko Tanaka, Toshiaki Arame, Yuki Horie, Naohide Hirashima  
*Dept Cell Biophys, Grad Sch Pharmaceut Sci, Nagoya City Univ, Nagoya, Japan*
- 2P-004**      **Molecular signaling pathways regulating axon branching via Dscam1**  
Yoshiaki Kise<sup>1</sup>, Azadeh Izadifar<sup>2</sup>, Dietmar Schmucker<sup>2</sup>, Kazuo Emoto<sup>1</sup>  
*<sup>1</sup>Dept Biol Sci, Graduate schl of sci, Univ of Tokyo, <sup>2</sup>VIB, KU Leuven, Leuven, Belgium*
- 2P-005**      **Glial cell dynamics associated with ectopic corticofugal projections after hemispherectomy**  
Leechung Chang, Nobuhiko Yamamoto  
*Grad Sch Front Bio, Osaka Univ, Osaka*
- 2P-006**      **Developmental defects of the habenula-interpeduncular circuit in double knockout mice for heparan sulfate endosulfatases *Sulf1/2***  
Sayaka Hashimoto<sup>2</sup>, Takuya Okada<sup>1,2</sup>, Ken Miya<sup>1</sup>, Kazuko Keino Masu<sup>1,2</sup>, Masayuki Masu<sup>1,2</sup>  
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- 2P-007**      **Spatio-temporally regulated alternative splicing of an actin scaffold *afadin* is necessary for proper cortical layer 2/3 neural circuit formation**  
Daiki Ohama, Izumi Oinuma  
*Grad Sch of Life Sci, Univ of Hyogo*
- 2P-008**      **Adeno-associated virus-mediated single neuron labeling method for developing mitral cells in the mouse olfactory bulb**  
Kazuya Togashi, Takeuchi Shunsuke, Okuyama Kei, Fujishima Kodai, Koizumi Hiroyuki, Emoto Kazuo  
*Dept Biol Sci, Univ Tokyo, Tokyo, Japan*

- 2P-009** Presynaptic protein Synaptotagmin1 regulates the neuronal polarity and axon differentiation in cultured hippocampal neurons  
Yuriko Inoue<sup>1</sup>, Yuji Kamikubo<sup>2</sup>, Hiromitsu Ezure<sup>1</sup>, Jyunji Ito<sup>3</sup>, Chika Sawa<sup>4</sup>, Harumi Hata<sup>5</sup>, Hiroshi Moriyama<sup>1</sup>, Naruhito Otsuka<sup>1</sup>  
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- 2P-010** Selection dynamics of cortical neuron dendrites revealed by long-term in vivo imaging in neonates  
Shingo Nakazawa<sup>1,2</sup>, Hidenobu Mizuno<sup>1,2</sup>, Takuji Iwasato<sup>1,2</sup>  
<sup>1</sup>Dept Genet, SOKENDAI, <sup>2</sup>Div Neurogenet, Natl Inst Genet, Mishima, Japan
- 2P-011** Neuritin promotes neurite and spine growth in rat cerebellar granule cells via L-type calcium channel-mediated calcium influx  
Yan-Ai Mei, Qian-Ru Zhao, Jun-Mei Lu, Zhao-Yang Li  
Department of Physiology and Biophysics, School of Life Sciences, Fudan University, Shanghai, China
- 2P-012** Visualizing single-neuron identity specified by Pcdh-b cluster  
Ryosuke Kaneko<sup>1</sup>, Manabu Abe<sup>2</sup>, Yusuke Takatsuru<sup>3</sup>, Yukiko U Inoue<sup>4</sup>, Masahiko Watanabe<sup>5</sup>, Kenji Sakimura<sup>2</sup>, Yuchio Yanagawa<sup>1</sup>, Takeshi Yagi<sup>6</sup>  
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- 2P-013** 3D analysis of the intracellular structures in growth cones using superresolution microscopy  
Motohiro Nozumi<sup>1</sup>, Michihiro Igarashi<sup>1,2</sup>  
<sup>1</sup>Dept Neurochem & Mol Cell Biol, Niigata Univ Grad Sch Med Dent Sci, <sup>2</sup>Trans-disc Res Prog, Niigata Univ
- 2P-014** Effect of D-cysteine on the dendritic development of cultured cerebellar Purkinje cells.  
Takahiro Seki<sup>1</sup>, Masahiro Sato<sup>1</sup>, Ayumu Konno<sup>2</sup>, Hirokazu Hirai<sup>2</sup>, Yuki Kurauchi<sup>1</sup>, Akinori Hisatsune<sup>3,4</sup>, Hiroshi Katsuki<sup>1</sup>  
<sup>1</sup>Dept Chemico-Pharmacol Sci, Grad Sch Pharm Sci, Kumamoto Univ, Kumamoto, Japan, <sup>2</sup>Dept Neurophysiol Neural Rep, Gunma Univ Grad Sch Med, Maebashi, Japan, <sup>3</sup>Priority Organization for Innovation and Excellence, Kumamoto Univ, Kumamoto, Japan, <sup>4</sup>Prog Leading Grad Sch "HIGO Program", Kumamoto Univ, Kumamoto, Japan
- 2P-015** Phosphorylation-dependent molecular marker for axon growth/regeneration in rodents and primates  
Masayasu Okada<sup>1</sup>, Asami Kawasaki<sup>2,3</sup>, Atsushi Tamada<sup>2,3</sup>, Yasuyuki Ito<sup>2</sup>, Kosei Takeuchi<sup>3,4</sup>, Yutaka Yoshida<sup>5</sup>, Yukihiko Fujii<sup>1</sup>, Michihiro Igarashi<sup>2,3</sup>  
<sup>1</sup>Department of Neurosurgery, Brain Research Institute, Niigata University, Niigata, Japan, <sup>2</sup>Center for Transdisciplinary Res, Niigata university, Niigata, Japan, <sup>3</sup>Dept Neurochem and Mol Cell Biol, Niigata Univ Grad School of Med and Dent Sciences, Niigata, Japan, <sup>4</sup>Dept Medi Biol, Aichi Med Univ, Aichi, Japan, <sup>5</sup>Center for Coordination Res Facilities, Inst for Research Promotion, Niigata Univ, Niigata, Japan
- 2P-016** Early-generated migratory neurons from the olfactory placode are putative guidepost cells in the formation of the olfactory nerve tract.  
Shizuko Murakami, Yasuo Uchiyama  
Dept of Cellul and Mol Neuropathol, Juntendo Univ Grad Sch of Med, Tokyo, Japan



- 2P-017 The Role of Netrin-1 from the Ventricular Zone in Commissural Axon Guidance**  
Kenta Yamauchi<sup>1,2,3</sup>, Maya Yamazaki<sup>4</sup>, Manabu Abe<sup>4</sup>, Kenji Sakimura<sup>4</sup>, Heiko Lickert<sup>5</sup>, Takahiko Kawasaki<sup>2</sup>, Tatsumi Hirata<sup>2</sup>  
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- 2P-018 Functional role of nuclear receptor REV-ERB $\beta$  in adult brain-derived neural stem cells**  
Koji Shimozaiki  
*Life Sci Supp Center, Nagasaki Univ, Nagasaki, Japan*
- 2P-019 Effect of chondroitin sulfate expression in perineuronal nets on axonal projections after goldfish spinal cord lesion**  
Akihito Takeda, Masashige Shuto, Kengo Funakoshi  
*Dept Neuroanat, Yokohama City Univ Sch of Med, Kanagawa, Japan*
- 2P-020 Analysis on axonal development of *Plxnd1*-expressing Layer 5a neurons in the mouse barrel cortex**  
Yuka Lin<sup>1</sup>, Oka Yuichiro<sup>1,2</sup>, Sato Makoto<sup>1,2</sup>  
*<sup>1</sup>Dept of Anat & Neurosci, Grad Sch of Med, Osaka Univ, Osaka, Japan, <sup>2</sup>Div of Dept Neurosci, United Grad Sch of Child Dev, Osaka Univ, Osaka, Japan*
- 2P-021 Receptor protein tyrosine phosphatase-related molecular mechanism of axon collateralization**  
Misato Yasumura<sup>1</sup>, Tokuichi Iguchi<sup>1</sup>, Mai Quynh Nguyen<sup>2</sup>, Kohei Mitamura<sup>2</sup>, Tomoyuki Yoshida<sup>3</sup>, Makoto Sato<sup>1,4</sup>  
*<sup>1</sup>Dept Anat & Neurosci, Grad Sch Med, Osaka Univ, Osaka, <sup>2</sup>Grad Sch Frontier Biosci, Osaka Univ, Osaka, <sup>3</sup>Dept of Mol Neurobiol, Grad Sch Medicine & Pharm Sci, Univ of Toyama, Toyama, <sup>4</sup>Div of Dev Neurosci, United Grad Sch of Child Dev, Osaka Univ, Osaka*
- 2P-022 SemaphorinA6 on radial glia cell and PlexinA2/A4 on neuron are required for proper positioning of superficial layer neurons in the cerebral cortex**  
Yumiko Hatanaka<sup>1,4</sup>, Takahiko Kawasaki<sup>2</sup>, Takao Kohno<sup>3</sup>, Mitsuharu Hattori<sup>3</sup>, Akira Sakakibara<sup>4</sup>, Yasuo Kawaguchi<sup>1</sup>, Tatsumi Hirata<sup>2</sup>  
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- 2P-023 Microtubule nucleation at the cytoplasm of neurons and its regulation by BDNF**  
Kensuke Hayashi, Mimori Yamada  
*Sophia Univ., Fac. Sci. and Tech., Tokyo, Japan*
- 2P-024 VGlut3-Positive Serotonergic Fiber Projection in the poly:IC Treated Mice**  
Fumihiro Shutoh, Ryusuke Koshida, Yosuke Takei  
*Anatm.Neurosci., Med., Univ. Tsukuba, Ibaraki, Japan*
- 2P-025 Computer vision-assisted analysis of morphology and motility for studying neuronal circuit formation**  
Atsushi Tamada, Michihiro Igarashi  
*Dept Neurochem and Mol Cell Biol, Grad Sch Med and Dent Sci, Niigata Univ, Niigata, Japan*
- 2P-026 Autophagy disruption and axon regeneration failure by chondroitin sulfate**  
Tomoya Ozaki, Kazuma Sakamoto, Yuanhao Gong, Kenji Kadomatsu  
*Department of Biochemistry, Nagoya University Graduate School of Medicine, Nagoya, Japan*

- 2P-027**      **Molecular analysis of the mutant gene for the peroneal muscular atrophy mouse**  
Kazuko Keino-Masu<sup>1</sup>, Chika Kato<sup>1</sup>, Yuta Mitani<sup>1</sup>, Yasunori Hayashi<sup>2,3</sup>, Masafumi Muratani<sup>6</sup>, Seiya Mizuno<sup>7</sup>, Satoru Takahashi<sup>8</sup>, Hideki Katoh<sup>4,5</sup>, Masayuki Masu<sup>1</sup>  
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- 2P-028**      **Palladin is an axon morphogenesis regulator protein and controlled by mTOR signaling pathway through translation in neurites**  
Yui Nakanishi<sup>1,2</sup>, Yusuke Umegaki<sup>1,2</sup>, Antonio Martinez Brotons<sup>1,2</sup>, Zhongyue Luo<sup>1,2</sup>, Hanlu Zhang<sup>1,2</sup>, Azad Bonni<sup>3</sup>, Yoshiho Ikeuchi<sup>1,2</sup>  
<sup>1</sup>Inst of Industrial Sci, Univ of Tokyo, Tokyo, Japan, <sup>2</sup>Dept Chem and Biotech, Sch of Eng, Univ of Tokyo, Tokyo, Japan, <sup>3</sup>Dept Neurosci, Washington Univ St Louis, St Louis, USA
- 2P-029**      **Cytoskeletal mechanisms regulating morphology of cortical interneuron for critical period plasticity**  
Xubin Hou<sup>1</sup>, Junko Kunimi<sup>1</sup>, Kenji Sakimura<sup>2</sup>, Sayaka Sugiyama<sup>1</sup>  
<sup>1</sup>Lab. of Neuronal Development, Dept Med, Niigata Univ. Niigata, Japan, <sup>2</sup>Dept Cellular Neurobiology, Brain Research Inst, Niigata Univ. Niigata, Japan
- 2P-030**      **KIF2A regulates the development of dentate granule cells and postnatal hippocampal wiring.**  
Noriko Homma<sup>1,3</sup>, Ruyun Zhou<sup>1,4</sup>, Muhammad Imran Naseer<sup>2</sup>, Adeel G. Chaudhary<sup>2</sup>, Mohammed H. Al-Qahtani<sup>2</sup>, Nobutaka Hirokawa<sup>1,2</sup>  
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## Synaptogenesis and Activity-Dependent Development

- 2P-031**      **Functional significance of the spontaneous depolarization wave in synaptic network formation during embryogenesis**  
Yoko Momose-Sato<sup>1</sup>, Katsushige Sato<sup>2</sup>  
<sup>1</sup>Dept Nutr & Dietetics, Coll Nutr, Kanto Gakuin Univ, Yokohama, Japan, <sup>2</sup>Dept Hlth & Nutr Sci, Fac Human Hlth, Komazawa Women's Univ, Tokyo, Japan
- 2P-032**      **Development of the facial nucleus in the rat embryo: Functional/morphological analyses with voltage-sensitive dye imaging and Dil staining**  
Katsushige Sato<sup>1</sup>, Yoko Momose-Sato<sup>2</sup>  
<sup>1</sup>Dept Hlth & Nutr Sci, Fac Human Hlth, Komazawa Women's Univ, Tokyo, Japan, <sup>2</sup>Dept Nutr & Dietetics, Coll Nutr, Kanto Gakuin Univ, Yokohama, Japan
- 2P-033**      **Structure and function of the LHb are regiospecifically altered under the influences of early-life stress.**  
Tomoya Nakamura, Kohei Kurosaki, Munenori Kanemoto, Hiroyuki Ichijo  
Dept Anat, Univ of Toyama, Toyama, Japan
- 2P-034**      **BDNF promoter activity is modulated by patterned firing activity in upper layer neurons of the developing cortex**  
Yumi Miyasaka, Akiyo Kamei, Nobuhiko Yamamoto  
Frontier Biosci., Osaka University, Osaka, Japan

**2P-035 Effects of cannabinoid agonists on axonal projection of layer 4 neurons in the developing mouse barrel cortex**

Chiaki Itami<sup>1</sup>, Jui-Yen Huang<sup>2</sup>, Hui-Chen Lu<sup>2</sup>, Fumitaka Kimura<sup>3</sup>

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**2P-036 Secretases activity regulate synapse development and maturation.**

Yuji Kamikubo, Kazue Niisato, Hakushun Sakairi, Yoshie Hashimoto, Takashi Sakurai

Dept Pharmacol, Juntendo Univ Sch of Med

## Epigenetic Control of Development and Evolution

**2P-037 Low dose Pb exposure in early life enhances the retinal degeneration caused by later life retinal ischemia**

Modgil Shweta<sup>1</sup>, Vijay Lakshmi Sharma<sup>2</sup>, Akshay Anand<sup>1</sup>

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**2P-038 Maintenance of genome stability by DNA polymerase  $\beta$  is necessary for postnatal development in cortical and hippocampal neurons**

Akiko Uyeda<sup>1</sup>, Kohei Onishi<sup>1</sup>, Teruyoshi Hirayama<sup>1,2</sup>, Takeshi Yagi<sup>1,2</sup>, Nobuhiko Yamamoto<sup>1</sup>, Noriyuki Sugo<sup>1</sup>

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**2P-039 Anatomical proximity and concordance of laterality in the organs of developing zebrafish**

Kei Taguchi<sup>1</sup>, Shoshi Akieda<sup>2</sup>, Haruhi Terai<sup>1</sup>, Hidenori Aizawa<sup>1</sup>

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## Neural Death and Apoptosis

**2P-040 Rac is required for the survival of cortical neurons**

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**2P-041 Epigallocatechin-3-gallate ameliorate methamphetamine-induced dopaminergic terminal damage by preventing oxidative stress**

Allen L Pan<sup>1,2</sup>, Jesus A Angulo<sup>1,2</sup>

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## Others


**2P-042 Inka2 controls cell migration by regulating the dynamics of focal contacts**

Hiroki Akiyama, Yumi Iwasaki, Shin-Ichi Sakakibara

Fac Hum Sci

- 2P-043**      **Mechanisms underlying termination of tangential neuronal migration investigated by a RNA-seq based approach**  
Yan Zhu, Aki Masuda, Hirofumi Nakaoka, Atsushi Toyoda, Tatsumi Hirata  
*National Institute of Genetics*
- 2P-044**      **ADAMTS-2 mediates the specific cleavage of Reelin in the adult brain**  
Yuko Yamakage, Michinao Kato, Himari Ogino, Takumi Ishizuka, Hitomi Tsuiji, Takao Kohno, Mitsuharu Hattori  
*Dept Biomed Sci, Grad Sch Pharmaceut Sci, Nagoya City Univ, Aichi, Japan*
- 2P-045**      **Analysis of Juvenility-associated Genes in the Mouse Brain.**  
Masaki Mori  
*Mol Neurosci Res Center, Shiga Univ of Medical Science, Otsu*
- 2P-046**      **Down-regulation of glial cell line-derived neurotrophic factor (GDNF) in axotomized rat facial nucleus**  
Kazuyuki Nakajima, Takashi Ishijima  
*Faculty of Science and Engineering, Soka University,*

## Synaptic Plasticity

- 2P-047**      **Roles of GSK3 in Brain Anatomy and Synaptic Function**  
Tsukiko Miyata<sup>1,2</sup>, Ariel Avila<sup>1</sup>, John Georgiou<sup>1</sup>, Graham Collingridge<sup>1,2</sup>, Lily Qiu<sup>3</sup>, Jason Lerch<sup>2,3</sup>, James Woodgett<sup>1,2</sup>  
<sup>1</sup>Lunenfeld Tanenbaum Research Institute, Toronto, Canada, <sup>2</sup>University of Toronto, Toronto, Canada, <sup>3</sup>The Mouse Imaging Centre, Toronto, Canada
- 2P-048**      **Reentrant excitation in hippocampal CA2 microcircuitry**  
Kazuki Okamoto, Yuji Ikegaya  
*Lab Chem Pharmacol, Grad Sch Pharm Sci, Univ of Tokyo, Tokyo*
- 2P-049**      **Novel Roles of SNARE Proteins in Short-term Synaptic Plasticity of Frog Neuromuscular Transmission**  
Yasuhiro Imafuku<sup>1</sup>, Koh-Ichi Enomoto<sup>2</sup>, Hiroko Kataoka<sup>2</sup>, Isao Ito<sup>1</sup>, Takashi Maeno<sup>2,3</sup>  
<sup>1</sup>Department of Biology, Faculty of Science, Kyushu University, <sup>2</sup>Faculty of Medicine, Shimane University, <sup>3</sup>Shimane Medical University
- 2P-050**      **Modulation of synaptic plasticity by nicotine in the mouse insular cortex**  
Hiroki Toyoda, Hajime Sato, Tsutomu Kawano, Dong Xu Yin, Takafumi Kato  
*Dept Oral Physiol, Osaka Univ Grad Sch Dent, Suita, Japan*
- 2P-051**      **Reduction of microRNA targeting Drd2 leads to thalamocortical dysfunction in schizophrenia mouse models**  
 Sungkun Chun, Jungmi Oh  
*Dept Physiology, Chonbuk National University Medical School, Jeonju, Republic of Korea*

- 2P-052**      **RNG105, an RNA granule-associated RNA-binding protein, regulates the structural plasticity of spine and is required for memory formation**  
 Kei Nakayama<sup>1,2</sup>, Manabu Abe<sup>3</sup>, Maya Yamazaki<sup>3</sup>, Akihiro Fujikawa<sup>4</sup>, Masaharu Noda<sup>2,4</sup>, Akira Futatsugi<sup>5</sup>, Katsuhiko Mikoshiba<sup>6</sup>, Kenji Sakimura<sup>3</sup>, Nobuyuki Shiina<sup>1,2</sup>  
<sup>1</sup>Lab of Neuronal Cell Biol., Okazaki Inst. for Integr. Biosci. and Nat'l. Inst. for Basic Biol., Aichi, Japan, <sup>2</sup>The Grad. Univ for Advanced Studies, Aichi, Japan, <sup>3</sup>Dept of Cellular Neurobiology, Brain Research Inst., Niigata Univ, Niigata, Japan, <sup>4</sup>Div of Molecular Neurobiology, Nat'l Inst. for Basic Biol., Aichi, Japan, <sup>5</sup>Dept of Basic Medical Science, Kobe City College of Nursing, Hyogo, Japan, <sup>6</sup>Lab for Developmental Neurobiology, BSI, RIKEN, Saitama, Japan
- 2P-053**      **The mathematical relationship between fast- and slow-component of facilitation at the frog NMJ is additive, multiplicative, or power of their summation.**  
 Naoya Suzuki, Junpei Yamaguchi  
 Dept Physics, Nagoya Univ, Nagoya, Japan
- 2P-054**      **Morphological changes of large layer V pyramidal neurons in the monkey motor-related areas after spinal cord injury**  
 Yu Takata<sup>1</sup>, Hiroshi Nakagawa<sup>1,2</sup>, Hajime Yamanaka<sup>1</sup>, Masahiko Takada<sup>1</sup>  
<sup>1</sup>Systems Neuroscience Section, Primate Research Institute, Kyoto University, Inuyama, Japan, <sup>2</sup>Sobell Department of Motor Neuroscience and Movement Disorders, Institute of Neurology, University College London, London, UK
- 2P-055**      **B-type GABA receptor serves as a dynamic modulator increasing the ligand-sensitivity of type-1 metabotropic glutamate receptor**  
 Masayoshi Abe<sup>1</sup>, Keisuke Ikeda<sup>1</sup>, Arata Ichiki<sup>1</sup>, Kenta Matsuoka<sup>1</sup>, Hakushun Sakairi<sup>2</sup>, Yuji Kamikubo<sup>2</sup>, Takashi Sakurai<sup>2</sup>, Toshihide Tabata<sup>1</sup>  
<sup>1</sup>Grad Sch Sci & Eng, Univ of Toyama, Toyama, Japan, <sup>2</sup>Dept Pharmacol, Juntendo Univ Sch Med, Tokyo, Japan
- 2P-056**      **CAPS1 regulates efficient and/or synchronous exocytosis of releasable synaptic vesicles, which effects on hippocampal synaptic plasticity, learning and memory**  
 Chiaki Ishii<sup>1</sup>, Yuki Ishii<sup>1</sup>, Natsumi Shibano<sup>1</sup>, Yuna Kato<sup>1</sup>, Mio Yamazaki<sup>1</sup>, Ami Yamato<sup>1</sup>, Yo Shinoda<sup>2</sup>, Tetsushi Sadakata<sup>3</sup>, Yoshitake Sano<sup>1</sup>, Teiichi Furuichi<sup>1</sup>  
<sup>1</sup>Dept. of Appl. Biol. Sci., Fac. of Sci. and Tech., Tokyo Univ. of Sci., Chiba, Japan, <sup>2</sup>Dep. of Envrn. Hlth., Sch. of Pharm., Tokyo Univ. of Pharm. and Life Sci., Tokyo, Japan, <sup>3</sup>Adv. Sci. Res. Leaders Develop. Unit, Gumma Univ. Gumma, Japan
- 2P-057**      **Endogenous Inhibitors of CaMKII (CaMKNS) Regulate Structural Construction of Dendritic Spine during Structural Long-Term Potentiation**  
 Pin-Wu Liu, Tomohisa Hosokawa, Yasunori Hayashi  
 Grad Sch Med, Kyoto Univ, Kyoto, Japan
- 2P-058**      **Activity dependent endocytosis of Wg that regulates synaptic plasticity in the *Drosophila* visual system**  
 Takashi Suzuki<sup>1</sup>, Hinata Kawamura<sup>1</sup>, Satoko Hakeda-Suzuki<sup>1</sup>, Emiko Suzuki<sup>2</sup>, Atsushi Sugie<sup>3</sup>, Jiro Osaka<sup>1</sup>  
<sup>1</sup>Sch. Life Sci. & Tech., Tokyo Inst. Tech., Yokohama, Japan, <sup>2</sup>Structural Biology Center, National Institute of Genetics, Mishima, Japan, <sup>3</sup>Center Transdisc. Res., Niigata Univ., Niigata
- 2P-059**      **Rearrangement of synaptic connections associated with altered inhibitory input of Purkinje cell-specific vesicular GABA transporter knockout mice**  
 Shiori Kobayashi<sup>1</sup>, Jeongtae Kim<sup>2</sup>, Yuchio Yanagawa<sup>3</sup>, Chigusa Shimizu-Okabe<sup>1</sup>, Chitoshi Takayama<sup>1</sup>  
<sup>1</sup>Dept Mol Anat, Univ of the Ryukyus, Grad Sch of Med, Okinawa, Japan, <sup>2</sup>Dept Veterinary Anat, College of Veterinary Medicine, Jeju National Univ, Jeju, South Korea, <sup>3</sup>Dept Genetic and Behavioral Neuroscience, Gunma univ. Grad. Sch. of Med, Gunma, Japan

- 2P-060**      **Metabolic energy state regulates synaptic plasticity onto POMC neurons of arcuate hypothalamic nucleus**  
Shigetomo Suyama<sup>1</sup>, Marcelo O Dietrich<sup>2</sup>, Toshihiko Yada<sup>1</sup>, Sabrina Diano<sup>2,3</sup>, Xiao-Bing Gao<sup>2</sup>, Tamas L Horvath<sup>2,3</sup>  
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- 2P-061**      **CaMKII dependent phosphorylation of gephyrin in Mauthner cell is molecular switch to induce glycine receptor clustering promotion and behavioral desensitization to sound**  
Kazutoyo Ogino, Hiromi Hirata  
Dept Chem Biol, Coll Sci Eng, AGU, Kanagawa, Japan
- 2P-062**      **Generating mice with conditional knockout of beta3 integrin by using CRISPR/Cas9 system and exploring the effect of conditional loss of beta3 integrin in anxiety-like behavior**  
Sunita Ghimire Gautam, Yun Kyung Park, Yukiko Goda  
RIKEN Brain Science Institute
- 2P-063**      **Effect of erinacine A against MPTP induced neurotoxicity and protective neuronal cell via PAK1/AKT/LIMK2/ERK/Cofilin pathway**  
Hsing-Chun Kuo<sup>1,2,3</sup>  
<sup>1</sup>Chang Gung University of Science and Technology Department of nurse, <sup>2</sup>Chronic Diseases and Health Promotion Research Center, CGUST, Chiayi, Taiwan, <sup>3</sup>Research Center for Industry of Human Ecology, Chang Gung University of Science and Technology, Taoyuan, Taiwan
- 2P-064**      **Drebrin critically regulates NMDAR- and mGluR5-dependent LTD induction**  
Hiroki Yasuda<sup>1</sup>, Nobuhiko Kojima<sup>2</sup>, Kenji Hanamura<sup>3</sup>, Tomoaki Shirao<sup>3</sup>  
<sup>1</sup>Edu Res Supp Ctr, Gunma Univ Grad Sch Med, Maebashi, Japan, <sup>2</sup>Fac Life Sci, Toyo Univ, <sup>3</sup>Dept Neurobiol & Behav, Gunma Univ
- 2P-065**      **Mechanism of Evoked Response in Cultured Neuronal Networks with Femtosecond Laser-induced Stimulation**  
Yuji Fujioka<sup>1</sup>, Suguru N. Kudoh<sup>2</sup>, Takahisa Taguchi<sup>3</sup>, Chie Hosokawa<sup>1,2,4</sup>  
<sup>1</sup>Biomed. Res. Inst., AIST, <sup>2</sup>Kwansei Gakuin Univ., <sup>3</sup>NICT, <sup>4</sup>PhotoBIO-OIL, AIST-Osaka Univ.
- 2P-066**      **Heterosynaptic plasticity following single-spine potentiation in hippocampal pyramidal neurons**  
Thomas Chater, Yukiko Goda  
RIKEN Brain Science Institute
- 2P-067**      **The genes required for synaptic plasticity in the Drosophila visual system**  
Tomohiro Araki<sup>1</sup>, Hinata Kawamura<sup>1</sup>, Keita Oochi<sup>1</sup>, Atsushi Sugie<sup>2</sup>, Satoko Hakeda-Suzuki<sup>1</sup>, Takashi Suzuki<sup>1</sup>  
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## Axonal Transport and Cytoskeleton

- 2P-068**      **Myosin Id localizes in dendritic spines through the tail homology 1 domain**  
Ryusuke Koshida, Saki Tome, Jin-Min Li, Yosuke Takei  
Dept Anat & Neurosci, Univ of Tsukuba, Ibraki, Japan

## 2P-069 Activity-dependent interaction of drebrin with CaMKII $\beta$ in dendritic spines

Hiroyuki Yamazaki, Noriko Koganezawa, Tomoaki Shirao  
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## Myelin Mechanisms

### 2P-070 Protamine neutralizes chondroitin sulfate proteoglycan-mediated inhibition of oligodendrocyte differentiation

Kazuya Kuboyama<sup>1</sup>, Naomi Tanga<sup>2</sup>, Ryoko Suzuki<sup>1</sup>, Akihiro Fujikawa<sup>1</sup>, Masaharu Noda<sup>1,2</sup>  
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### 2P-071 Screening specific molecules of unmyelinated neurons in central nervous system

Haruko Miyazaki<sup>1,2,3</sup>, Risa Yamano<sup>1</sup>, Saki Nishioka<sup>4</sup>, Masahito Ikawa<sup>4</sup>  
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### 2P-072 Pathological study of cuprizone-induced demyelination in the cerebellum

Taichi Nomura, Yoshio Bando, Hitomi Nakazawa, Shigetaka Yoshida  
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## Blood-Brain Barrier

### 2P-073 A role of Perivascular macrophages to constitute Blood-brain barrier

Kazunori Ohashi, Hitomi Matsuno, Shoko Tsuchimine, Shuichi Chiba, Kazuhiro Shoya, Hiroshi Kunugi  
*Department of Mental Disorder Research, National Institute of Neuroscience, National Center of Neurology and Psychiatry (NCNP)*

## Others

### 2P-074 Physiological role of somatodendritic dopamine release: true autoregulation of neural activity

Takuya Hikima<sup>1</sup>, Konstantin Ichtchenko<sup>2</sup>, Margaret E Rice<sup>1,3</sup>  
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### 2P-075 Quantification of native Arc mRNA dynamics in living neurons by fluorescence correlation spectroscopy

Hirofumi Fujita<sup>1</sup>, Ryota Oikawa<sup>2</sup>, Mayu Hayakawa<sup>2</sup>, Fumiaki Tomoiike<sup>2</sup>, Satoshi Tsuneda<sup>1</sup>, Hiroshi Abe<sup>2</sup>, Takafumi Inoue<sup>1</sup>  
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### 2P-076 Analysis of Local GABAergic inhibitory system in Perihinal Cortex Using Voltage-Sensitive Dye Signal in Mice brain Slices.

Yuuka Wakayama<sup>1</sup>, Yuta Yamada<sup>1</sup>, Takashi Tominaga<sup>2</sup>, Yoko Tominaga<sup>2</sup>, Riichi Kajiwara<sup>1</sup>  
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- 2P-077      Role of clustered protocadherin gamma for the specific synaptic connections between excitatory and parvalbumin-positive inhibitory neurons in the mouse visual cortex  
Nanami Kawamura, Etsuko Tarusawa, Takeshi Yagi  
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## Olfaction and Taste

- 2P-078      Effects of optogenetic stimulation of the mouse olfactory tubercle in place preference test  
Koshi Murata<sup>1</sup>, Tomoki Kinoshita<sup>1</sup>, Kenta Kobayashi<sup>2</sup>, Hiroyuki Manabe<sup>3</sup>, Yugo Fukazawa<sup>1</sup>, Masahiro Yamaguchi<sup>4</sup>  
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- 2P-079      Increase In Theta-band EEG Activities Under Tasting Chocolate With Unmatched Odor Stimulation  
Saori Maeda<sup>1,3</sup>, Hiroshi Yoshimura<sup>1</sup>, Yuji Miyachi<sup>1,4</sup>, Hiroyuki Kanayama<sup>1,5</sup>, Takahiro Hasegawa<sup>1</sup>, Chenjuan Yao<sup>1</sup>, Tetsuya Akamatsu<sup>1,2</sup>  
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- 2P-080      Odor-taste multisensory integration in *Drosophila*  
Hongping Wei<sup>1</sup>, Hokto Kazama<sup>1,2</sup>  
<sup>1</sup>RIKEN BSI, Saitama Japan, <sup>2</sup>Dept Life Sci, Grad Sch Arts & Sci, Univ of Tokyo, Tokyo, Japan
- 2P-081      A new behavioral task for flavor discrimination in mice  
Kazuki Shiotani<sup>1,2</sup>, Junya Hirokawa<sup>1</sup>, Yoshio Sakurai<sup>1</sup>, Hiroyuki Manabe<sup>1</sup>  
<sup>1</sup>Laboratory of Neural Information, Graduate School of Brain Science, Doshisha University, Kyoto, Japan, <sup>2</sup>Research Fellow of Japan Society for the Promotion of Science
- 2P-082      Analysis of PKG in the olfactory information processing in *C. elegans*  
Takahiro Hino<sup>1</sup>, Manabi Fujiwara<sup>2</sup>, Takeshi Ishihara<sup>2</sup>  
<sup>1</sup>Graduate School of Systems Life Sciences, Kyushu University, <sup>2</sup>Faculty of Science, Kyushu University, Fukuoka, Japan

## Audition

- 2P-083      Repetitive recordings of sound-driven responses in individual mice for a hearing-impaired model using transcranial flavoprotein autofluorescence imaging in vivo  
Kengo Takasu, Takashi Tateno  
*Dept Information Science and Technology, Univ of Hokkaido, Sapporo, Japan*
- 2P-084      Layer-dependent changes of the responses induced by electric microstimulation in the mouse auditory cortex in vivo  
Shuto Muramatsu, Shuto Muramatsu, Takashi Tateno  
*Graduate school of Information science and technology, Hokkaido University. Sapporo*
- 2P-085      A functional role of inferior colliculus in combining information of binaural sound intensity  
Eiki Hayashi, Yoshiki Kashimori  
*Dept Engineering Science, Univ. of Electro-Communications, Tokyo, Japan*

- 2P-086** Time series correlation between neural activities and acoustic factors in avian higher auditory regions  
Masahiro Inda, Hotta Kohji, Kotaro Oka  
*Department of Biosciences and Informatics, Keio University, Kanagawa, Japan*
- 2P-087** Anatomical study of cortical and subcortical projections from the primary auditory area and the anterior auditory field in mice  
Shiro Nakata<sup>1</sup>, Makoto Takemoto<sup>1</sup>, Wen-Jie Song<sup>1,2</sup>  
<sup>1</sup>*Dept of Sensory and Cognitive Physiol, Kumamoto Univ, Kumamoto, Japan, <sup>2</sup>Program for Leading Graduate Schools HIGO Program, Kumamoto Univ, Kumamoto, Japan*
- 2P-088** Effects of ketamine administrations on frequency and duration mismatch activity in common marmosets  
Misako Komatsu<sup>1</sup>, Noritaka Ichinohe<sup>1,2</sup>  
<sup>1</sup>*Ichinohe Group, Laboratory for Molecular Analysis of Higher Brain Function, RIKEN Brain Science Institute, Wako, Japan, <sup>2</sup>Dept of Ultrastructural Research, NCNP, Tokyo, Japan*
- 2P-089** Neural responses to artificial and natural sounds in higher auditory cortices  
Sohei Chimoto  
*Dept of Neurophysiol, Univ of Yamanashi, Yamanashi, Japan*
- 2P-090** Projection from telencephalon to the inferior colliculus in echolocating bats  
Tetsufumi Ito<sup>1</sup>, Ryo Yamamoto<sup>2</sup>, Takafumi Furuyama<sup>3</sup>, Kazuma Hase<sup>3</sup>, Kobayashi I Kohta<sup>3</sup>, Shizuko Hiryu<sup>3</sup>  
<sup>1</sup>*Dept Anat, Kanazawa Med Univ, Ishikawa, Japan, <sup>2</sup>Dept Physiol, Kanazawa Med Univ, Ishikawa, <sup>3</sup>Dept Life Med Sci, Doshisha Univ*
- 2P-091** Thalamocortical structures that differentiate complexity in functional organizations between primary and secondary auditory cortices in mice  
Hiroaki Tsukano<sup>1</sup>, Shinpei Ohga<sup>1</sup>, Masao Horie<sup>2</sup>, Hiroki Terashima<sup>3</sup>, Nana Nishio<sup>1</sup>, Yamato Kubota<sup>4</sup>, Kuniyuki Takahashi<sup>4</sup>, Ryuichi Hishida<sup>1</sup>, Hirohide Takebayashi<sup>5</sup>, Katsuei Shibuki<sup>1</sup>  
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- 2P-092** A novel noninvasive auditory prosthesis: Application of infrared laser stimulation to a hearing aid  
Yuta Tamai, Kensuke Horinouchi, Yuki Ito, Kazuyuki Matumoto, Shizuko Hiryu, Kohta I. Kobayasi  
*Dept Life and Med Sci, Doshisha University*

## Somatosensation

- 2P-093** Enhancement of inflammatory hyperalgesia and attenuation of transcription factor expression in the insular and anterior cingulate cortices after repeated forced swim stress  
Hiroki Imbe, Akihisa Kimura  
*Dept Physiol, Wakayama Medical Univ, Wakayama, Japan*

- 2P-094**      **Microglia promote the collateral sprouting in the somatosensory cortex in the model of stroke-induced mechanical allodynia**  
Shinichiro Hiraga<sup>1</sup>, Maki Hoshiko<sup>1,3</sup>, Hironobu Takaya<sup>1</sup>, Toshihide Yamashita<sup>1,2,3</sup>  
<sup>1</sup>Dept Mole Neu, Grad Sch of Med, Univ of Osaka, Osaka, Japan, <sup>2</sup>Grad Sch of FBS, Univ of Osaka, Osaka, Japan, <sup>3</sup>IFReC, Univ of Osaka, Osaka, Japan
- 2P-095**      **Repeated mechanical stimuli to nociceptor by algometer increase pain threshold**  
Setsuko Nagahama  
Faculty of Health Care, Teikyo Heisei Univ, Tokyo, Japan
- 2P-096**      **Quantitative study of cross-modal plasticity in the rat somatosensory perception using optogenetics**  
Kenta Abe<sup>1,2</sup>, Hiromu Yawo<sup>1,2</sup>  
<sup>1</sup>Tohoku University Graduate School of Life Sciences, <sup>2</sup>Tohoku University School of Medicine.
- 2P-097**      **Neuronal Codes for Speed of Tactile Motion in Primary Somatosensory Cortex**  
Yueh-Peng Chen<sup>1,2,3,4</sup>, Jian-Jia Huang<sup>1,2,3,4</sup>, Chih-Pang Chu<sup>5</sup>, Chun-I Yeh<sup>6</sup>, Yu-Cheng Pei<sup>1,2,3,4</sup>  
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- 2P-098**      **Neural coding of shape information of differently shaped objects in active electrolocation**  
Hideyo Konya<sup>1</sup>, Shun Okuno<sup>1</sup>, Kazuhisa Fujita<sup>2</sup>, Yoshiki Kashimori<sup>1</sup>  
<sup>1</sup>Dept of Engineering Science, The Univ of Electro-Communications, Tokyo, Japan, <sup>2</sup>Department of Electronics and Control Engineering, Tsuyama National College of Technology
- 2P-099**      **Anterior cingulate cortex connectivity is associated with suppression of behavior in a rat model of chronic pain**  
Christian Sprenger<sup>1</sup>, Laurel S Morris<sup>2,3</sup>, Ken Koda<sup>4</sup>, Daniela M de la Mora<sup>3</sup>, Tomomi Yamada<sup>6</sup>, Hiroaki Mano<sup>3</sup>, Yuto Kashiwagi<sup>6</sup>, Yoshichika Yoshioka<sup>3,5</sup>, Yasuhide Morioka<sup>6</sup>, Ben Seymour<sup>1,3,5</sup>  
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- 2P-100**      **Projections to the densocellular part of the hyperpallium in the rostral Wulst of the pigeon**  
Yasuro Atoji  
Lab Vet Anat, Fac Appl Biol Sci, Gifu Univ
- 2P-101**      **Identification of the profiles of inhibitory synapses from inhibitory neurons to excitatory neurons in the trigeminal spinal subnucleus caudalis**  
Yuka Nakaya, Kiyofumi Yamamoto, Masayuki Kobayashi  
Dept Pharmacol, Nihon Univ. Sch. of Dent., Tokyo, Japan
- 2P-102**      **Neonatal traumatic stress contributes to the enhancement of facial skin-incised pain hypersensitivity in adulthood**  
Kumi Soma<sup>1,2</sup>, Masamichi Shinoda<sup>2</sup>, Tetsuo Shirakawa<sup>1</sup>, Koichi Iwata<sup>2</sup>  
<sup>1</sup>Dept Pediatric Dent, Nihon Univ Sch Dent, Tokyo, Japan, <sup>2</sup>Dept Physiol, Nihon Univ Sch Dent, Tokyo, Japan

- 2P-103**      **Lateral parabrachial neurons innervate orexin-containing hypothalamic neurons projecting to the ventral tegmental area and dorsal raphe in the rat**  
Yosuke Arima, Shigefumi Yokota  
*Department of Anatomy and Morphological Neuroscience, Shimane University School of Medicine*
- 2P-104**      **Plastic changes in pain-related brain regions of macaque model of central post stroke pain: (2) anatomical changes**  
Daigo Bandou<sup>1</sup>, Kazuaki Nagasaka<sup>1,2,3</sup>, Ichiro Takashima<sup>1,2</sup>, Keiji Matsuda<sup>1</sup>, Noriyuki Higo<sup>1</sup>  
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- 2P-105**      **Elucidation of neural circuit mechanism integrating noxious stimulus and ambient temperature sensation in *Drosophila***  
Kai Li, Akira Murakami, Tadashi Uemura, Tadao Usui  
*Graduate School of Biostudies, Kyoto University, Kyoto, Japan*
- 2P-106**      **Plastic changes in pain-related brain regions of macaque model of central post stroke pain: (1) brain activity changes**  
Kazuaki Nagasaka<sup>1,2,3</sup>, Ichiro Takashima<sup>1,2</sup>, Keiji Matsuda<sup>1</sup>, Daigo Bando<sup>1,2</sup>, Noriyuki Higo<sup>1</sup>  
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- 2P-107**      **CLEM-3D view reveals new type glial cell in the DRG**  
Taro Koike<sup>1</sup>, Maeda Mitsuyo<sup>2</sup>, Suga Mitsuo<sup>2</sup>, Tanaka Susumu<sup>1</sup>, Hirahara Yukie<sup>1</sup>, Oe Souichi<sup>1</sup>, Kataoka Yosky<sup>2,3</sup>, Yamada Hisao<sup>1</sup>  
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- 2P-108**      ***In vivo* Ca<sup>2+</sup> imaging of primary somatosensory cortex in a mouse model of postoperative pain**  
Takuya Okada<sup>1,2</sup>, Yoshihisa Tachibana<sup>1</sup>, Yuki Nomura<sup>2</sup>, Norihiko Obata<sup>2</sup>, Satoshi Mizobuchi<sup>2</sup>, Hiroaki Wake<sup>1</sup>  
<sup>1</sup>Dept of System Neurosci, Univ of Kobe, Hyogo, Japan, <sup>2</sup>Dept of Anesthesiol, Univ of Kobe, Hyogo, Japan
- 2P-109**      **The neural mechanism to detect object's shape in electrolocation of weakly electric fish**  
Kazuhisa Fujita, Yoshiki Kashimori  
*University of Electro-Communications, Tokyo, Japan*
- 2P-110**      **Neuronal activity of macaque somatosensory cortex during action observation and execution**  
Amit Yaron, Tomomichi Oya, Joachim Confais, Kazuhiko Seki  
*National Institute of Neuroscience, NCNP, Tokyo*
- 2P-111**      **Thalamic sites projecting to the vagal-somatic convergent region in the insular and sensorimotor cortex in rats**  
Shinichi Ito  
*Dept of Physiol, Sch of Medicine, Shimane Univ, Izumo*
- 2P-112**      **Analysis of brain activity under the formalin-induced nociception in mice**  
Chihiro Inami<sup>1</sup>, Hiroki Tanihira<sup>2</sup>, Satomi Kikuta<sup>2,3</sup>, Kazuhiko Kume<sup>1</sup>, Makoto Osanai<sup>2</sup>, Masahiro Ohsawa<sup>1</sup>  
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## Viscerosensation

- 2P-113      **Neural systems supporting Interoceptive and Exteroceptive Emotion Processing**  
Behnaz Jarrahi, Sean Mackey  
*Stanford University School of Medicine, Palo Alto, California, USA*
- 2P-114      **Organization of projections from the central nervous system to the visceral sensory nucleus of the rat**  
Yoshikatsu Negishi, Yoshinori Kawai  
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## Multisensory integration

- 2P-115      ***Forkhead box D4* transcription factor homolog, *unc-130*, affects sensory processing depending on stimulus strength**  
Sayaka Hori, Mitani Shohei  
*Dept Physiol, Tokyo Women's Med Univ, Tokyo*
- 2P-116      **Quantification of the input-output relation under natural noise in an interneuron of *C. elegans***  
Keita Ashida, Kohji Hotta, Kotaro Oka  
*Department of Biosciences and Informatics, Faculty of Science and Technology, Keio University, Kanagawa, Japan*
- 2P-117      **Multisensory integration of hand position and visual feedback is differently affected by the hand and hemispace used for reaching**  
Miya K Rand, Herbert Heuer  
*Leibniz Research Centre for Working Environment and Human Factors, Dortmund, Germany*
- 2P-118      **Macaque SII and adjacent opercular neurons discriminate bodily awareness of the self from others**  
Miki Taoka<sup>1,2</sup>, Sayaka Hihara<sup>1,2</sup>, Atsushi Iriki<sup>1,2</sup>  
<sup>1</sup>Lab Symbolic Cognitive Develop, Brain Science Institute, RIKEN, Saitama, Japan, <sup>2</sup>Lab Symbolic Cognitive Develop, Center for Biosystems Dynamics Research, RIKEN, Saitama, Japan
- 2P-119      **EMG-controlled robotic arm intended to be incorporated into body representation**  
Toshihiro Kawase<sup>1</sup>, Yuki Sato<sup>1</sup>, Kenji Kansaku<sup>1,2</sup>  
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- 2P-120      **A mechanism of working memory binding visual and gustatory information in orbitofrontal cortex**  
Layla Chadaporn Antaket, Kenji Takei, Yoshiki Kashimori  
*Dept. of Engineering Science, University of Electro-Communications, Tokyo, Japan*
- 2P-121      **Auditory-induced optical illusion and modification of V1 activity in rodent**  
Yuki Ito<sup>1</sup>, Ryo Sato<sup>1</sup>, Takafumi Furuyama<sup>1</sup>, Shizuko Hiryu<sup>1,2</sup>, Kobayashi I Kohta<sup>1</sup>  
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- 2P-122**      **Linearity in the multimodal integration of sensory inputs depends on the activation level in the insect sensory interneurons**  
Makoto Someya<sup>1</sup>, Hiroto Ogawa<sup>2</sup>  
*<sup>1</sup>Biosystem Sci, Grad Sch Life Sci, Hokkaido Univ, Hokkaido, Japan, <sup>2</sup>Dept Sci, Hokkaido Univ, Hokkaido*
- 2P-123**      **Cortical mechanisms underlying solidness perception under influence of visual information revealed by multivoxel pattern-based fMRI.**  
Yuri Kim<sup>1,2,3</sup>, Nobuo Usui<sup>1,2</sup>, Atsushi Miyazaki<sup>4</sup>, Tomoki Haji<sup>4</sup>, Kenji Matsumoto<sup>4</sup>, Katsuki Nakamura<sup>3</sup>, Masato Taira<sup>1,2</sup>, Narumi Katsuyama<sup>1,2</sup>  
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- 2P-124**      **Higher functions in the posterior parietal cortex: analysis using a mouse model.**  
Kohei Yoshitake<sup>1,3</sup>, Nana Nishio<sup>1,3</sup>, Hiroaki Tsukano<sup>1</sup>, Ryuichi Hishida<sup>1</sup>, Takeshi Yagi<sup>2,3</sup>, Katsuei Shibuki<sup>1,3</sup>  
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- 2P-125**      **Pain-induced interruption of the cortical sensory responses in the primary areas of mice**  
Ryuichi Hishida, Katsuei Shibuki  
*Dept Neurophysiol, Brain Res Inst, Niigata Univ, Niigata, Japan*
- 2P-126**      **The role of lateral parabrachial nucleus for modulating respiration and spinal information**  
Akiko Arata<sup>1</sup>, Sotatsu Tonomura<sup>1,2</sup>, Hiroaki Imakita<sup>1,3</sup>, Hirotaka Ooka<sup>1</sup>, Chiaki Uchida<sup>1</sup>, Akira Tamaki<sup>3</sup>  
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- 2P-127**      **Spatio-temporal dynamics of neuromagnetic activities related to detection of audio-visual simultaneous changes during continuous multisensory stimulation**  
Emi Tanaka<sup>1,2</sup>, Tetsuo Kida<sup>3,4</sup>, Ryusuke Kakigi<sup>3,4</sup>, Minoru Hoshiyama<sup>1</sup>  
*<sup>1</sup>Brain & Mind Research Center, Univ of Nagoya, Aichi, Japan, <sup>2</sup>Japan Society for the Promotion of Science, Tokyo, Japan, <sup>3</sup>National Institute for Physiological Sciences, Aichi, Japan, <sup>4</sup>Graduate Univ for Advanced Studies (SOKENDAI), Hayama, Japan*
- 2P-128**      **Thalamic reticular nucleus exhibits a novel oscillatory activity *in vivo***  
Norio Takata<sup>1</sup>, Akiyo Natsubori<sup>2</sup>, Masaru Mimura<sup>1</sup>, Kenji F Tanaka<sup>1</sup>  
*<sup>1</sup>Keio Univ. Sch. of Med, Tokyo, Japan, <sup>2</sup>Tokyo Metropolitan Institute for Neuroscience, Tokyo, Japan*
- 2P-129**      **Perioral sensory signals are transmitted to the cerebellum via the anatomical pathway from mesodiencephalic junction to the inferior olive**  
Reika Kubo<sup>1</sup>, Atsu Aiba<sup>2</sup>, Kouichi Hashimoto<sup>1</sup>  
*<sup>1</sup>Dept Neurophysiol, Grad Sch Biomed and Health Sci, Hiroshima Univ, Hiroshima, Japan, <sup>2</sup>Lab of Animal Resources, Center for Disease Biology and Integrative Medicine, Grad Sch Med, Univ of Tokyo, Tokyo, Japan*
- 2P-130**      **Information Integration in Sensory Area by Optical Imaging**  
Gennosuke Tasaka<sup>1</sup>, Yoshinori Ide<sup>3</sup>, Yutaka Sakai<sup>2</sup>, Takeshi Aihara<sup>1</sup>  
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## Others

- 2P-131** **Different functional roles of bilateral spino-parabrachial projection in nociception**  
 Juan Deng<sup>1,2</sup>, Di Mu<sup>1,2</sup>, Yichao Wei<sup>1,2</sup>, Junkai Lin<sup>1,2</sup>, Yangang Sun<sup>1</sup>  
<sup>1</sup>Institute of Neuroscience, Chinese Academy of Sciences, Shanghai, China, <sup>2</sup>Graduate School, University of Chinese Academy of Sciences, Shanghai, China.
- 2P-132** **Tail-to-head neuronal wiring regulates temperature acclimation of *C. elegans***  
 Akane Ohta<sup>1</sup>, Satoko Fujii<sup>1</sup>, Makoto Ioroi<sup>1</sup>, Atsushi Kuhara<sup>1,2</sup>  
<sup>1</sup>Lab. of Molecular and Cellular Regulation, Dept of Biol, & Inst for Integrative Neurobiology Konan Univ., Japan, <sup>2</sup>PRIME, AMED
- 2P-133** **Involvement of TRPA1 receptors in the hypoxia-induced surfacing response of goldfish**  
 Masanori Kasai, Reina Douwaki, Akiho Tochiara, Ami Kikukawa, Kouhei Hamaue, Hiromitsu Kimura, Yangjuan Mai, Yukiko Yokogawa  
 Chem. & BioSci. Course, Sci. & Engineer, Kagoshima Univ., Kagoshima
- 2P-134** **Excitatory and Inhibitory Inputs to PV-Epressing GABAergic Neurons in the Mouse Primary Motor Cortex**  
 Hiroyuki Hioki<sup>1</sup>, Sohn Jaerin<sup>2</sup>, Okamoto Shinichiro<sup>3</sup>, Kameda Hiroshi<sup>4</sup>  
<sup>1</sup>Dept Cell Biol Neurosci, Juntendo Grad Sch of Med, Tokyo, Japan, <sup>2</sup>Div Cerebral Circuitry, NIPS, Okazaki, Japan, <sup>3</sup>Cog and Behav Neurosci, Grad Sch Brain Sci, Doshisha Univ, Kyotanabe, Japan, <sup>4</sup>Dept Physio, Teikyo Univ Sch of Med, Tokyo, Japan
- 2P-135** **Velocity-dependent modulation of the directional selectivity in wind-sensitive projection neurons in the crickets.**  
 Kazuki Tanaka<sup>1</sup>, Makoto Someya<sup>1</sup>, Hisashi Shidara<sup>2</sup>, Hiroto Ogawa<sup>2</sup>  
<sup>1</sup>Grad. Sch. of Life Sci., Hokkaido Univ., Sapporo Japan, <sup>2</sup>Dept Biol Sci, Fac Sci, Hokkaido Univ, Sapporo, Japan
- 2P-136** **Screening for thermo-sensor in thermosensory neuron in *C. elegans***  
 Kohei Ohnishi<sup>1</sup>, Toru Miura<sup>1</sup>, Tomoyo Ujisawa<sup>2</sup>, Akane Ohta<sup>1</sup>, Atsushi Kuhara<sup>1</sup>  
<sup>1</sup>Inst. for Integrative Neurobiology, Konan Univ., Japan, <sup>2</sup>National Institutes of Natural Sciences, Okazaki Institute for Integrative Bioscience
- 2P-137** **Sensorimotor abnormalities in individuals with autism spectrum disorder based on disorder of Bayesian estimation**  
 Yumi Umesawa<sup>1</sup>, Misako Sano<sup>1,2,4</sup>, Seiki Tajima<sup>3</sup>, Kengo Nishimaki<sup>2,3,4,5</sup>, Reiko Fukatsu<sup>1,2,3</sup>, Shinichiro Kumagaya<sup>5</sup>, Makoto Miyazaki<sup>6</sup>, Makoto Wada<sup>1</sup>  
<sup>1</sup>Department of Rehabilitation for Brain Functions, Research Institute of NRCD, Saitama, Japan, <sup>2</sup>Information and Support Center for Persons with Developmental Disorders, NRCD, Saitama, Japan, <sup>3</sup>Hospital of NRCD, Saitama, Japan, <sup>4</sup>National Rehabilitation Center for Children with Disabilities, Tokyo, Japan, <sup>5</sup>Research Center for Advanced Science and Technology, University of Tokyo, Tokyo, Japan, <sup>6</sup>Faculty of Informatics, Shizuoka University, Shizuoka, Japan

## Posture and Gait

- 2P-138** **Short- and long-latency interlimb stretch reflex between the human shoulder muscles**  
 Tetsuro Muraoka<sup>1</sup>, Isaac Kurtzer<sup>2</sup>  
<sup>1</sup>College of Economics, Nihon Univ, Tokyo, Japan, <sup>2</sup>Dept Biomedl Sci, NYCOM, New York, U.S.



- 2P-139**      **The effects of noisy galvanic vestibular stimulation with several stimulus intensities and noise types in stroke patients**  
Osamu Aoki<sup>1</sup>, Yoshitaka Otani<sup>2</sup>, Shinichiro Morishita<sup>3</sup>  
<sup>1</sup>Dept Rehab, Shijonawate Gakuen Univ, Osaka, Japan, <sup>2</sup>Dept Rehab, Kobe International Univ, Hyogo, Japan, <sup>3</sup>Dept Rehab, Niigata Univ of Health and Welfare, Niigata, Japan
- 2P-140**      **Computational models to reproduce the characteristics of human three-jointed arm postures during planar reaching movements**  
Shun Kanaya, Masazumi Katayama  
Graduate School of Engineering, Univ of Fukui, Japan
- 2P-141**      **Recovery of balance and gait function induced by transcranial rhythmic current stimulation synchronized with gait rhythm in post-stroke patients**  
Satoko Koganemaru<sup>1</sup>, Ryosuke Kitatani<sup>2</sup>, Ayaka Maeda<sup>2</sup>, Masao Matsushashi<sup>3</sup>, Katsunori Ikoma<sup>1</sup>, Tatsuya Mima<sup>4</sup>  
<sup>1</sup>Dept Rehabilitation Medicine, Hokkaido University Hospital, Hokkaido, Japan, <sup>2</sup>Kansai Rehabilitation Hospital, Osaka, Japan, <sup>3</sup>Human brain research center, Univ of Kyoto, Kyoto, Japan, <sup>4</sup>The Graduate School of Core Ethics and Frontier Sciences, Ritsumeikan University, Japan
- 2P-142**      **Transformation of quadrupedal locomotion into bipedal locomotion on a treadmill by Japanese monkeys: kinematic analysis**  
Takashi Suzuki<sup>1</sup>, You Komagiri<sup>1</sup>, Kazunori Morita<sup>1</sup>, Akira Murata<sup>2</sup>, Masahiko Inase<sup>2</sup>, Katsumi Nakajima<sup>1</sup>  
<sup>1</sup>Dept Physiol, Iwate Med Univ, Iwate, Japan, <sup>2</sup>Dept Physiol, Facult Med, Kindai Univ, Osaka, Japan
- 2P-143**      **Gait characteristics under optokinetic stimulation with virtual reality**  
Junya Komagata<sup>1,2</sup>, Atsushi Sugiura<sup>1</sup>, Hiroshi Takamura<sup>2</sup>, Toshihiro Kitama<sup>1</sup>  
<sup>1</sup>Center for Life Science Research, Univ. of Yamanashi, Yamanashi, Japan, <sup>2</sup>Dept. of Physical Therapy, Health Science Univ., Yamanashi, Japan
- 2P-144**      **Improvements in motor performance and changes in postural control during a repetitive reaching task in elderly people**  
Hiroshi Saito<sup>1,2</sup>, Satoshi Kasahara<sup>1</sup>, Yuki Suzumori<sup>3</sup>, Masanori Yamanaka<sup>1</sup>  
<sup>1</sup>Faculty of Health Sciences, Hokkaido University, Sapporo, Japan, <sup>2</sup>Department of Health Sciences, Tokyo Kasei University, Sayama, Japan, <sup>3</sup>Department of rehabilitation, Hitsujigaoka Hospital, Sapporo, Japan

## Rhythmic Motor Pattern Control

- 2P-145**      **Formation of the neuronal connectivity that regulates divergent action selections in *Drosophila* larvae**  
Suguru Takagi<sup>1</sup>, Akinao Nose<sup>1,2</sup>  
<sup>1</sup>Dept Physics, Univ Tokyo, Tokyo, Japan, <sup>2</sup>Dept Comp Sci Eng, Univ Tokyo, Kashiwa, Japan
- 2P-146**      **Properties of jaw movements induced by stimulation of cortical masticatory area in guinea pigs**  
Eriko Kikuchi<sup>1</sup>, Hisayuki Ojima<sup>1</sup>, Yamashita Akiko<sup>2</sup>, Katsuyama Narumi<sup>1</sup>, Taira Masato<sup>1</sup>  
<sup>1</sup>Cognitive Neurobiology, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University, Tokyo, Japan, <sup>2</sup>Division of Biology, Department of Liberal Education, Nihon University School of Medicine

- 2P-147**      **Spatio-temporal analysis of multi-neuronal imaging data and visualization of spontaneous neuronal activation patterns**  
 Fumikazu Miwakeichi<sup>1,2</sup>, Yoshihiko Oke<sup>3</sup>, Yoshitaka Oku<sup>3</sup>, Andreas Galka<sup>4</sup>, Swen Hülsmann<sup>5,6</sup>  
<sup>1</sup>Department of Statistical Modeling, The Institute of Statistical Mathematics, <sup>2</sup>Department of Statistical Science, Graduate University for Advanced Studies, Japan, <sup>3</sup>Department of Physiology, Hyogo College of Medicine, Japan, <sup>4</sup>Institute of Medical Psychology and Medical Sociology, Chiritsian Albrechts University of Kiel, Germany, <sup>5</sup>Center for Nanoscale Microscopy and Molecular Physiology of the Brain (CNMPB), Göttingen, Germany, <sup>6</sup>The Clinic for Anesthesiology, Univ Medical Center, Göttingen, Germany
- 2P-148**      **Cineradiographic study of the development of mastication in the common marmoset**  
 Luciana Rezende de Oliveira<sup>1</sup>, Ls Borges<sup>1</sup>, Ps de Campos<sup>1</sup>, K Kagiya<sup>2</sup>, O Baba<sup>3</sup>, M Picinato<sup>1</sup>, S Takehara<sup>4</sup>, Y Kumei<sup>4</sup>, JLL Zeredo<sup>1</sup>  
<sup>1</sup>University of Brasilia, <sup>2</sup>Clea Japan Co., <sup>3</sup>University of Tokushima, <sup>4</sup>Tokyo Medical and Dental University
- 2P-149**      **Identification of a neuronal circuit that can elicit backward locomotion in *Drosophila* larvae**  
 Atsuki Hiramoto<sup>1</sup>, Julius Jonaitis<sup>2</sup>, Sawako Niki<sup>2</sup>, Richard Fetter<sup>4</sup>, Albert Cardona<sup>4</sup>, Stefan Pulver<sup>2</sup>, Akinao Nose<sup>1,3</sup>  
<sup>1</sup>Dept of Complexity Sci and Eng, Grad Sch of Frontier Sci, Univ of Tokyo, Japan, <sup>2</sup>University of St Andrews, Scotland, United Kingdom, <sup>3</sup>Department of Physics, Graduate School of Science, University of Tokyo, <sup>4</sup>HHMI Janelia Research Campus, Ashburn, VA, UAS

## Sensori-Motor Integration

- 2P-150**      **Bidirectional transfer between joint and individual actions in a task of discrete force production**  
 Nobuyuki Inui  
 Grad. Sch. Edu. Naruto Univ. Edu., Naruto, Japan
- 2P-151**      **Prepulse inhibition of acoustic startle response in patients with schizophrenia and mood disorder: Analyses stratified by sex**  
 Junko Matsuo, Miho Ota, Hiroaki Hori, Shinsuke Hidese, Toshiya Teraishi, Ikki Ishida, Moeko Hiraishi, Hiroshi Kunugi  
 National Center of Neurology and Psychiatry, 4-1-1, Ogawahigashi, Kodaira, Tokyo, Japan
- 2P-152**      **Inferring fixated objects in free viewing from parallel neuronal spiking activities in macaque monkeys**  
 Yukako Yamane<sup>1,2</sup>, Junji Ito<sup>3</sup>, Cristian Joana<sup>3</sup>, Pedro E Maldonado<sup>4</sup>, Hiroshi Tamura<sup>1,5</sup>, Ichiro Fujita<sup>1,5</sup>, Kenji Doya<sup>2</sup>, Sonja Gruen<sup>3,6</sup>  
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- 2P-153**      **Selection of multi-faced functions of the reticulospinal systems involved in motor control in relation to behavioral states of animals**  
 Kaoru Takakusaki, Mirai Takahashi, Toshi Nakajima, Ryosuke Chiba, Kazuhiro Obara  
 Research center for brain function and medical engineering
- 2P-154**      **Sensorimotor interaction in processing sensory feedback from own voluntary movement.**  
 Kei Mochizuki<sup>1</sup>, Katsumi Nakajima<sup>2</sup>, Masahiko Inase<sup>1</sup>, Akira Murata<sup>1</sup>  
<sup>1</sup>Dept Physiol, Facult Med, Kindai Univ, Osaka, Japan, <sup>2</sup>Dept Physiol, Facult Med, Iwate Med Univ, Iwate, Japan

- 2P-155**      **fMRI connectivity analysis of sensory effect on jaw tapping associated brain network in elderly**  
Hideyuki Fukami, Yoshinori Sahara  
*Dept physiol, Iwate Medical Univ, Morioka, Japan*
- 2P-156**      **Comparison of saccadic behavior between common marmosets, macaque monkeys, and humans**  
Chih-Yang Chen<sup>1</sup>, Denis Matrov<sup>1</sup>, Richard Veale<sup>1</sup>, Masatoshi Yoshida<sup>4</sup>, Kenichiro Miura<sup>2</sup>, Tadashi Isa<sup>1,3</sup>  
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## Autonomic Regulation

- 2P-157**      **Localization and Function of neuropeptide manserin in the rat carotid body**  
Michiru Eto, Takeshi Ohkawara, Masaaki Narita  
*Dept Dev Regener Med, Mie Univ Grad Scho of Med, Mie, Japan*
- 2P-158**      **Nardilysin regulates cardiac dynamics and cardiac sympathetic innervation through modulating p75NTR shedding**  
Mikiko Ohno<sup>1</sup>, Kiyoto Nishi<sup>2</sup>, Yusuke Morita<sup>2</sup>, Shintaro Matsuda<sup>2</sup>, Hirotaka Iwasaki<sup>1</sup>, Takeshi Kimura<sup>2</sup>, Eiichiro Nishi<sup>1</sup>  
*<sup>1</sup>Dept Pharm, Shiga U of Med Sci, Otsu, Japan , <sup>2</sup>Dep. Cardiovasc. Med. Kyoto U, Kyoto, Japan*
- 2P-159**      **Proliferation of bone marrow hematopoietic progenitor cells by PACAP via the sympathetic nerve innervation.**  
Hirokazu Ohtaki<sup>1</sup>, Zifang Xu<sup>1</sup>, Jun Watanabe<sup>1,2</sup>, Kazumichi Yagura<sup>1</sup>, Yutaka Hiraizumi<sup>3</sup>, Kenji Dohi<sup>4</sup>, Kazuho Honda<sup>1</sup>  
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- 2P-160**      **Role of glutamatergic neurons in the caudal solitary nucleus in cardiorespiratory regulation**  
Shigefumi Yokota<sup>1</sup>, Yosuke Arima<sup>1</sup>, Kotaro Takeda<sup>2</sup>, Yasumasa Okada<sup>3</sup>  
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- 2P-161**      **Exercise prevents hypertension and disrupts the correlation between vascular sympathetic activity and age-related increase in blood pressure in SHR**  
Jia-Yi Li<sup>1,2</sup>, Chieh-Wen Chen<sup>2,3</sup>, Tsung-Han Liu<sup>2,3</sup>, Terry B. J. Kuo<sup>2,3,4,5</sup>, Cheryl C. H. Yang<sup>2,3</sup>  
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## Stress

- 2P-162**      **Xanthine Dehydrogenase in two Interneurons controls Cold Tolerance of *C. elegans***  
Natsune Takagaki<sup>1,2</sup>, Akane Ohta<sup>1,2</sup>, Tomoyo Ujisawa<sup>1,2</sup>, Youhei Minakuchi<sup>3</sup>, Atsushi Tyoda<sup>3</sup>, Atsushi Kuhara<sup>1,2,4</sup>  
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- 2P-163**      **Dietary Ingestion of Lactobacillus Helveticus Strain MCC1848 Increases Resilience in a Subchronic Social Defeat Stress Model of Mice**  
Hazuki Maehata<sup>1</sup>, Takahiro Kawase<sup>2</sup>, Yodai Kobayashi<sup>1</sup>, Tetsuya Kuhara<sup>1</sup>, Jin-Zhong Xiao<sup>1</sup>, Atsushi Toyoda<sup>3,4</sup>  
<sup>1</sup>Morinaga Milk Industry Co., Ltd Next Generation Science Institute, Kanagawa, Japan, <sup>2</sup>Kyoto Institute of Nutrition & Pathology, <sup>3</sup>College of Agriculture, Ibaraki University, <sup>4</sup>United Graduate School of Agricultural Science, Tokyo University of Agriculture and Technology
- 2P-164**      **Activation of hypothalamic-pituitary-adrenal (HPA) axis directly aggravates tumor progression**  
Yusuke Hamada<sup>1</sup>, Sara Yoshida<sup>1</sup>, Naomi Kanao<sup>1</sup>, Michiko Narita<sup>1</sup>, Hiroyuki Tezuka<sup>2</sup>, Hideki Tamura<sup>2</sup>, Toshimasa Ito<sup>1,3</sup>, Akihiro Yamanaka<sup>4</sup>, Naoko Kuzumaki<sup>1</sup>, Minoru Narita<sup>1,2</sup>  
<sup>1</sup>Dept. Pharmacol., Hoshi Univ., Tokyo, Japan, <sup>2</sup>L-StaR, Hoshi Univ., Tokyo, Japan, <sup>3</sup>Dept. Pharmacy, Tokyo Woman's Med. Univ. Med. Cent. East, Tokyo, Japan, <sup>4</sup>Dept. Neurosci.II, RIEM, Nagoya Univ., Nagoya, Japan
- 2P-165**      **The effect of glucocorticoid on dopamine receptors in the anterior cingulate cortex of mice**  
Yasushi Hojo<sup>1</sup>, Takeaki Matsunaga<sup>1</sup>, Mutsumi Komatsu<sup>1</sup>, Kenji Ito<sup>1</sup>, Tomohiro Hashimoto<sup>1</sup>, Keiko Takizawa<sup>2</sup>, Sakiko Noguchi<sup>2</sup>, Rina Ito<sup>1</sup>, Miki Hashizume<sup>1</sup>, Takanari Nakano<sup>1</sup>, Takayuki Murakoshi<sup>1</sup>  
<sup>1</sup>Dept Biochem, Saitama Med Univ, <sup>2</sup>Fac Health and Med Care, Saitama Med Univ
- 2P-166**      **Analysis of the impact of choroid plexus on adult neurogenesis focusing on a key chronic inflammatory regulator, Angiopoietin-like protein 2**  
Rie Yamashita, Kinichi Nakashima, Sayako Katada  
Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan
- 2P-167**      **Behavioral and neurobiological effects of repeated restraint stress**  
Hitomi Matsuno<sup>1</sup>, Kazunori O'hashi<sup>1</sup>, Suichi Chiba<sup>1</sup>, Shoko Tsuchimine<sup>1</sup>, Aya Yoshimura<sup>1</sup>, Kazuhisa Sakai<sup>2</sup>, Noritaka Ichinohe<sup>2</sup>, Kazuhiro Sohya<sup>1</sup>, Hiroshi Kunugi<sup>1</sup>  
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## Food and Water Intake

- 2P-168**      **Non-peptidic Orexin receptor type-2 agonist attenuates body weight gain of high-fat fed mice**  
Eriya Takahashi, Masashi Yanagisawa, Yoko Irukayama, Yasuhiro Ogawa, Takuto Yamaguchi, Hiroshi Nagase, Tsuyoshi Saitoh, Hitoshi Shimano, Yoshimi Nakagawa, Akari Kawai, Masaya Araki  
IIS, Univ of Tsukuba, Ibaraki, Japan

## Motivation

- 2P-169**      **The effect of 5-HT receptors antagonist on reward-based decision-making**  
Fumika Akizawa<sup>1</sup>, Takashi Mizuhiki<sup>2</sup>, Tsuyoshi Setogawa<sup>3</sup>, Ryosuke Kuboki<sup>1</sup>, Munetaka Shidara<sup>2</sup>  
<sup>1</sup>Grad. Sch. Comprehensive Human Sci, Univ. of Tsukuba, Ibaraki, Japan, <sup>2</sup>Faculty of Medicine, Univ. of Tsukuba, Ibaraki, Japan, <sup>3</sup>Lab Neuropsychol, NIMH, NIH, Bethesda, USA
- 2P-170**      **About essential conditions and its search for a neural network to have a possibility to make a human-like mind state with its consciousness**  
Mitsuo Takase  
LINFOPS Inc. Yokohama Japan
- 2P-171**      **Characterization of multigenic factors associated with home-cage activity in mice**  
Naoko Ueda<sup>1,2</sup>, Ayako Ishii<sup>1</sup>, Yuji Imai<sup>1</sup>, Kazuto Yoshimi<sup>1,3</sup>, Tsuyoshi Koide<sup>1,2</sup>  
<sup>1</sup>Mouse Genomics Resource Laboratory, National Institute of Genetics (NIG), Mishima, Japan, <sup>2</sup>Department of Genetics, SOKENDAI, Hayama, Japan, <sup>3</sup>Genome Editing Research and Development Center, Graduate School of Medicine, Osaka University, Suita, Osaka, Japan
- 2P-172**      **Genetic characterization of active tameness using selectively bred mice from wild-derived heterogeneous stock**  
Tsuyoshi Koide<sup>1</sup>, Hiromichi Nagayama<sup>1,2</sup>, Tatsuhiko Goto<sup>3</sup>, Yuki Matsumoto<sup>1,2</sup>  
<sup>1</sup>Mouse Genomics Resource Laboratory, National Institute of Genetics, <sup>2</sup>Dept Genet, SOKENDAI, Mishima, Japan, <sup>3</sup>Res Center Global Agromedicine
- 2P-173**      **Influence of Suppressed Dopamine Secretion to Goal-directed Behavior of Mice**  
Kung Chun Kao, Naohiro Jomura, Tatsuhiro Hisatsune  
Dept of integrated biosciences, Univ of Tokyo, Kashiwa, Japan
- 2P-174**      **Effects of rTMS to medial frontal cortex on competitive food-picking behavior in monkeys**  
Takayuki Hosokawa, Xizhe Lu, Atsuhiko Saita, Shinya Nakamura, Toshio Iijima, Ken-Ichiro Tsutsui  
Lab Sys Neurosci, Tohoku Univ, Sendai, Japan
- 2P-175**      **Positive effect of environmental enrichment on fear extinction is affected by the presence or absence of methyl donor in mice**  
Yuji Sahara<sup>1</sup>, Daisuke Matsuzawa<sup>1,2</sup>, Takahiro Fuchida<sup>1</sup>, Takashi Goto<sup>1</sup>, Chihiro Sutoh<sup>1,2</sup>, Eiji Shimizu<sup>1,2</sup>  
<sup>1</sup>Dept Cognit Behav physiol, Chiba Univ, Chiba, Japan, <sup>2</sup>Res Cen for Child Mental Develop, Chiba Univ, Chiba, Japan

## Emotion

- 2P-176**      **The role of interleukin 1 $\beta$  in the brain on individual difference of inter-male aggression in the mouse**  
Aki Takahashi<sup>1</sup>, Hossein Aleyasin<sup>2</sup>, Mihaela A Stavarache<sup>3</sup>, Meghan E Flanigan<sup>2</sup>, Anna Brancato<sup>2</sup>, Caroline Menard<sup>2</sup>, Madeline L Pfau<sup>2</sup>, Veronika Kana<sup>2</sup>, Jun Wang<sup>2</sup>, Georgia E Hodes<sup>2</sup>, Sonoko Ogawa<sup>1</sup>, Bruce S McEwen<sup>4</sup>, Scott J Russo<sup>2</sup>  
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- 2P-177** Paternal psychological stress just before mating influences a formation of emotional behavior in next generation offspring mice  
Noriyuki Shimizu, Sachiko Chikahisa, Tetsuya Shiuchi, Airi Otsuka, Daisuke Tanioka, Hiroyoshi Sei  
*Dept Integ Physiol, Inst of Biomed Sci, Grad Sch Univ of Tokushima, Tokushima, Japan*
- 2P-178** The ventral tegmental area mediates anticipatory ultrasonic vocalization in rats associated with tickling or sweet taste ingestion  
Yasunobu Yasoshima, Aya Terashima, Keisuke Shinohara  
*Div Behav Physiol, Grad Sch Human Sci, Osaka Univ, Suita, Japan*
- 2P-179** The infralimbic cortex is involved in the extinction learning of conditioned fear.  
Mei Ito, Tomoko Shimizu, Saki Ito, Akira Mitani  
*Laboratory of Physiology, Department of Human Health Sciences, Kyoto University, Kyoto, Japan*
- 2P-180** Rearing in enriched environment during development decreases anxiety-like behavior: evaluation of anxiety-like behavior by beam walking tests in different emotional situations  
Ryosuke Ochi<sup>1</sup>, Naoto Fujita<sup>1</sup>, Hiroshi Nishimaru<sup>2</sup>, Jumpei Matsumoto<sup>2</sup>, Hisao Nishijo<sup>2</sup>, Susumu Urakawa<sup>1</sup>  
<sup>1</sup>*Grad Sch of Biomed and Health Sci, Hiroshima Univ, Hiroshima, Japan,* <sup>2</sup>*System Emotional Science, Grad sch Med and Pharmaceutical Sci, Univ of Toyama, Toyama*
- 2P-181** Effect of early-life photoperiod on affective behaviors, memory and learning, neurogenesis, and neuronal development  
Shinobu Yasuo, Yukihiro Tone, Yusuke Takai, Misato Kawai, Nozomu Takaki, Mitsuhiro Furuse  
*Fac Agri, Kyushu Univ, Fukuoka, Japan*
- 2P-182** Gamma oscillations in the macaque medial prefrontal cortex in response to snakes and conspecific faces  
Ha Trong Dinh, Hiroshi Nishimaru, Jumpei Matsumoto, Yusaku Takamura, Etsuro Hori, Taketoshi Ono, Hisao Nishijo  
*University of Toyama System Emotional Science*
- 2P-183** Behavioral neuroscientific analysis on new-object reaction in wild brown rat (*Rattus norvegicus*)  
Ryoko Koizumi<sup>1</sup>, Yasushi Kiyokawa<sup>1</sup>, Kazuyuki Tanaka<sup>2</sup>, Tsutomu Tanikawa<sup>2</sup>, Yukari Takeuchi<sup>1</sup>  
<sup>1</sup>*Laboratory of Veterinary Ethology, Graduate school of Agricultural and Life sciences, The University of Tokyo, Tokyo, Japan,* <sup>2</sup>*Technical Research Laboratory, Ikari Shodoku Corporation, Chiba, Japan*
- 2P-184** Analysis of social behavior and neural basis of tameness using wild-derived tame mice established by selective breeding  
Hiromichi Nagayama<sup>1</sup>, Yuki Matsumoto<sup>1,2</sup>, Tsuyoshi Koide<sup>1,2</sup>  
<sup>1</sup>*Department of Genetics, The Graduate University for Advanced Studies (SOKENDAI), Shizuoka, Japan,* <sup>2</sup>*Mouse Genomics Resource Laboratory, National Institute of Genetics*
- 2P-185** Pituitary adenylate cyclase-activating polypeptide gene expression in hypothalamus regulated by an alternative promoter with polymorphic sites on cis-regulatory elements  
Akira Tanave<sup>1</sup>, Kazuto Yoshimi<sup>1,2,3</sup>, Yuji Imai<sup>1</sup>, Tsuyoshi Koide<sup>1,2</sup>  
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- 2P-186** Association between serotonin 2A receptor gene (HTR2A) polymorphism and the social sharing of happiness in American adults  
Masahiro Matsunaga<sup>1</sup>, Keiko Ishii<sup>2</sup>, Yohsuke Ohtsubo<sup>2</sup>, Yasuki Noguchi<sup>2</sup>, Hidenori Yamasue<sup>3</sup>, Takahiko Masuda<sup>4</sup>  
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- 2P-187** Visualization of the activation pattern causality in the transition from acute to chronic pain using DREADD-MEMRI  
Daigo Arimura<sup>1,2,3</sup>, Kei Shinohara<sup>3</sup>, Yukari Takahashi<sup>1,2</sup>, Tomokazu Tsurugizawa<sup>4</sup>, Ryo Ikeda<sup>2,3</sup>, Keishi Marumo<sup>3</sup>, Fusao Kato<sup>1,2</sup>  
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- 2P-188** Boredom-like behavior of mice  
Yosuke Yawata, Yuji Ikegaya  
Laboratory of Chemical Pharmacology, Graduate School of Pharmaceutical Science, The University of Tokyo, Tokyo, Japan
- 2P-189** Positive and negative emotion reflected in monkey EEG  
Yasutaka Honda, Takayuki Hosokawa, Shinya Nakamura, Toshio Iijima, Ken-Ichiro Tsutsui  
Lab Sys Neurosci, Tohoku University Graduate School of Life Sciences, Miyagi, Japan
- 2P-190** Anatomical organization and laminar distribution of subcortical projection neurons in the mouse insular cortex  
Makoto Takemoto, Wen-Jie Song  
Dept Sens Cogn Physiol, Kumamoto Univ, Kumamoto, Japan
- 2P-191** Impulsive disorder in Alzheimer's disease model mice revealed by fMRI imaging during operant learning  
Keisuke Sakurai, Teppei Shintani, Tatsuhiko Hisatsune  
Department of Integrated Biosciences, Graduate School of Frontier Sciences, The University of Tokyo, Tokyo, Japan
- 2P-192** Pair bonding attenuates freezing behavior coupled with general and contextual fear in monogamous prairie voles.  
Yu Hirota, Aki Arai, Shinichi Mitsui  
Department of Rehabilitation Sciences, Gunma University Graduate School of Health Sciences, Gunma, Japan

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- 2P-193** Attenuation of memory loss by Lineage negative stem cells transplantation in amyloid injured mice  
Parul Bali<sup>1</sup>, Bimla Nehru<sup>1</sup>, Akshay Anand<sup>2</sup>  
<sup>1</sup>Department of Biophysics, Panjab University, Chandigarh, India, <sup>2</sup>Neuroscience Research Lab, Department of Neurology, Post Graduate Institute of Medical Education and Research, Chandigarh, India
- 2P-194** Endocannabinoid interactions in the regulation of behavioral responses to trauma  
Zoltan Balogh<sup>1,2</sup>, Laszlo Szente<sup>1,2</sup>, Zoltan Kristof Varga<sup>1,2</sup>, Laszlo Biro<sup>1,2</sup>, Jozsef Haller<sup>1</sup>, Mano Aliczki<sup>1</sup>  
<sup>1</sup>Institute of Experimental Medicine - Hungarian Academy of Sciences, Budapest, Hungary, <sup>2</sup>Janos Szentagothai Doctoral School of Neurosciences, Semmelweis University, Budapest, Hungary





- 2P-195**      **Analogy of visual working memory system between rodent and primate; development of an adjacent two-lever task for delayed alternative lever-release by standing rodent's forelimbs (Application of Olton's operant reaction-time task)**  
Masatoshi Takita<sup>1,2</sup>, Sei-Etsu Fujiwara<sup>1,3</sup>, Yukio Ichitani<sup>4</sup>  
<sup>1</sup>AIST, Tsukuba, Japan, <sup>2</sup>Brain Sci Inspired Life Support RC, UEC, Tokyo, Japan, <sup>3</sup>Dept Physiol, St. Marianna Univ Sch of Med, Kawasaki, Japan, <sup>4</sup>Faculty of Human Sciences, Univ of Tsukuba, Tsukuba, Japan
- 2P-196**      **Central and peripheral activity is variable in mice on closed arms of an elevated-plus maze**  
Toya Okonogi<sup>1</sup>, Ryota Nakayama<sup>1</sup>, Takuya Sasaki<sup>1,2</sup>, Yuji Ikegaya<sup>1</sup>  
<sup>1</sup>Lab of Chemical Pharmacology, Grad Sch of Pharmaceutical Sciences, The Univ of Tokyo, Tokyo, <sup>2</sup>Precursory Research for Embryonic Science and Technology, Japan Science and Technology Agency, Saitama, Japan
- 2P-197**      **Cortical mechanisms underlying perceptual memory consolidation during sleep**  
Daichi Hirai<sup>1</sup>, Daisuke Miyamoto<sup>1,2</sup>, Yasuhiro Oisi<sup>1</sup>, Maya Odagawa<sup>1</sup>, Chie Matsubara<sup>1</sup>, Kanako Ueno<sup>1</sup>, Akiko Hayashi-Takagi<sup>3</sup>, Masanori Murayama<sup>1</sup>  
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- 2P-198**      **Distribution of somatostatin immunopositive structures in the retrosplenial cortex of the rabbit**  
Hideshi Shibata<sup>1</sup>, Yoshiko Honda<sup>2</sup>  
<sup>1</sup>Lab Vet Anat, Tokyo Univ of Agri & Tech, Tokyo, Japan, <sup>2</sup>Dept Anat, Tokyo Women's Med Univ, Tokyo, Japan
- 2P-199**      **A study on parvalbumin immunopositive neuronal somata and neuropils in the rabbit midcingulate cortex**  
Uddin Mohi<sup>1</sup>, Yoshiko Honda<sup>2</sup>, Hideshi Shibata<sup>1</sup>  
<sup>1</sup>Tokyo University of Agriculture and Technology, <sup>2</sup>Dept. Anatomy, School of Medicine, Tokyo Women's Medical Univ., Tokyo
- 2P-200**      **Theta-gamma coupling strengthens after learning the Differential-Reinforcement-of-low-Rate (DRL) Task**  
Wan-Ting Liao, Yi-Tse Hsiao  
School of Veterinary Medicine, National Taiwan University, Taipei, Taiwan
- 2P-202**      **Establishment of in vivo field excitatory post synaptic potential (fEPSP) recording system at hippocampal CA3-CA3 synapses**  
Naoya Oishi<sup>1,2</sup>, Kohei Koga<sup>2,3</sup>, Masanori Nomoto<sup>1,2</sup>, Noriaki Ohkawa<sup>1,2</sup>, Shuhei Tsujimura<sup>1,2</sup>, Yoshitake Sano<sup>2,4</sup>, Yoshito Saitoh<sup>1,2</sup>, Hirofumi Nishizono<sup>2,5</sup>, Mina Matsuo<sup>5</sup>, Shin-Ichi Muramatsu<sup>6</sup>, Kaoru Inokuchi<sup>1,2</sup>  
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- 2P-203**      **Synapse-specific representation of the identity of multiple memory engrams**  
 Kareem Mahmoud Abdou<sup>1,2</sup>, Mohammad Shehata<sup>1,2,6</sup>, Kiriko Choko<sup>1,2</sup>, Hirofumi Nishizono<sup>2,3</sup>, Mina Matsuo<sup>3</sup>, Shin-Ichi Muramatsu<sup>4,5</sup>, Kaoru Inokuchi<sup>1,2</sup>  
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- 2P-204**      **Maternal chewing during prenatal stress in mice ameliorates stress-induced impairment of serotonergic system in the adult offspring**  
 Kyoko Kajimoto<sup>1</sup>, Ayumi Suzuki<sup>1</sup>, Hiroko Kondo<sup>1</sup>, Sakurako Hayashi<sup>1</sup>, Masahisa Katano<sup>1</sup>, Mitsuo Iinuma<sup>1</sup>, Kagaku Azuma<sup>2</sup>, Kin-Ya Kubo<sup>3</sup>  
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- 2P-205**      **The phosphodiesterase 3 inhibitor cilostazol restores memory impairment and enhances cerebral glucose metabolism in aged mice.**  
 Syuichi Yanai<sup>1</sup>, Tetsuro Tago<sup>2</sup>, Jun Toyohara<sup>2</sup>, Tomoko Arasaki<sup>1</sup>, Shogo Endo<sup>1</sup>  
<sup>1</sup>Aging Neuroscience Research Team, Tokyo Metropolitan Institute of Gerontology, <sup>2</sup>Research Team for Neuroimaging, Tokyo Metropolitan Institute of Gerontology
- 2P-206**      **Distinct dopamine release required for memory reinforcement and retrieval, *in vivo* voltammetric study**  
 Shintaro Nagano, Minoru Saitoe  
 Tokyo Metropolitan Institute of Medical Science
- 2P-207**      **Dopamine D1 Receptors Modulates Spatial learning via Enhancement of Excitatory Amino Acids Levels in the Hippocampal Dentate Gyrus**  
 Qing-Hua Jin, Wei-Yao Wang, Chuan-Bo Sun, Ke Zhao, Bin Xiao  
 Department of Physiology and Pathophysiology, College of Medicine, Yanbian University, Yanji, China
- 2P-208**      **Dietary exposure to flame retardant tris (2-butoxyethyl) phosphate alters cognitive function and inflammatory markers in brain of a mouse model of allergic asthma**  
 Win-Shwe Tin-Tin<sup>1</sup>, Rie Yanagisawa<sup>1</sup>, Eiko Koike<sup>1</sup>, Hirohisa Takano<sup>2</sup>  
<sup>1</sup>National Institute for Environmental Studies, <sup>2</sup>Graduate School of Engineering, Kyoto University, Kyoto
- 2P-209**      **Neural circuit mechanisms underlying appetitive olfactory memory in zebrafish**  
 Nobuhiko Miyasaka<sup>1,2</sup>, Yoshihiro Yoshihara<sup>1,2,3</sup>  
<sup>1</sup>RIKEN Brain Science Institute, <sup>2</sup>RIKEN BSI-KAO Collaboration Center, <sup>3</sup>JST ERATO Tuhara Chemosensory Signal Project
- 2P-210**      **Functional 3D-Reconstruction of the Hippocampus in a Spatial and Emotional Memory**  
 Shoko Arai<sup>1</sup>, Constantine Pavlides<sup>1,2</sup>  
<sup>1</sup>Kansei, Behavioral and Brain sciences, Comprehensive human sciences, University of Tsukuba, <sup>2</sup>Rockefeller University, NY, USA
- 2P-211**      **Ionotropic dopamine receptor regulates olfactory learning in *C. elegans***  
 Ayumi Kikuchi<sup>1</sup>, Shuhei J Yamazaki<sup>1</sup>, Kotaro Kimura<sup>1,2</sup>  
<sup>1</sup>Dept. Biol., Grad. Sch. Sci., Osaka Univ, <sup>2</sup>Dept Natural Sciences, Nagoya City University, Nagoya, Japan

- 2P-212 Behavioral detection of optogenetic and electrical brain stimulation in Mongolian Gerbils**  
Theresa Christiane Weidner<sup>1,2</sup>, Martin Deckert<sup>2,4</sup>, Gonzalo Arias Gil<sup>1</sup>, Juergen Goldschmidt<sup>1,2</sup>, Armin Dadgar<sup>2,5</sup>, Frank W Ohl<sup>1,2,3</sup>, Kentaroh Takagaki<sup>1,2</sup>, Michael T Lippert<sup>1,2</sup>  
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- 2P-213 "All-Go" Behavioral State with Resetting Associative Neural Encoding in Ventral Striatum during Reversal Learning**  
Yuta Tanisumi, Junya Hirokawa, Yoshio Sakurai, Hiroyuki Manabe  
Laboratory of Neural Information, Graduate School of Brain Science, Doshisha University, Kyoto, Japan
- 2P-214 Reward and Behavior-duration Modulation of Task-related Cells in Hippocampal CA1**  
Hiroki Katsube<sup>1</sup>, Akiko Saiki<sup>2</sup>, Yutaka Sakai<sup>3</sup>, Yoshikazu Isomura<sup>3</sup>, Toshikazu Samura<sup>1,3</sup>  
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- 2P-215 Membrane potential correlations between hippocampal CA1 pyramidal cells in vivo.**  
Asako Noguchi, Nobuyoshi Matsumoto, Yuji Ikegaya  
Lab Chem Pharmacol, Grad Sch Pharm Sci, Univ of Tokyo, Tokyo
- 2P-216 Hippocampal neuronal ensembles encode time elapsed in the order of minutes**  
Yu Shikano<sup>1</sup>, Takuya Sasaki<sup>1,2</sup>, Yuji Ikegaya<sup>1</sup>  
<sup>1</sup>Lab Chem Pharmacol, Grad Sch Pharm Sci, Univ of Tokyo, Tokyo, <sup>2</sup>Precursory Research for Embryonic Science and Technology (PRESTO), Japan Science and Technology Agency, Japan
- 2P-217 Integrating Neuronal Ensembles Constitute and Replay Hippocampal Engram**  
Khaled Ghandour<sup>1,2,3</sup>, Noriaki Ohkawa<sup>1,2,3</sup>, Chi Chung Alan Fung<sup>2,4</sup>, Hirotaka Asai<sup>1,2</sup>, Yoshito Saitoh<sup>1,2,3</sup>, Takashi Takekawa<sup>2,5</sup>, Reiko Okubo-Suzuki<sup>1,2</sup>, Shingo Soya<sup>6</sup>, Hirofumi Nishizono<sup>7</sup>, Mina Matsuo<sup>7</sup>, Masaaki Sato<sup>4,8,9</sup>, Masamichi Ohkura<sup>8,9</sup>, Junichi Nakai<sup>8,9</sup>, Yasunori Hayashi<sup>4,9,10</sup>, Takeshi Sakurai<sup>6</sup>, Makoto Osanai<sup>11,12</sup>, Takashi Kitamura<sup>13</sup>, Tomoki Fukai<sup>2,4</sup>, Kaoru Inokuchi<sup>1,2</sup>  
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- 2P-218 A transient and spatially constrained 20-40 Hz oscillation in the ventromedial prefrontal cortex: a stress-sensitive neurophysiological substrate linked to social behavior**  
Takuya Sasaki<sup>1,2</sup>, Reimi Abe<sup>1</sup>, Yuji Ikegaya<sup>1</sup>  
<sup>1</sup>Lab Chem Pharmacol, Grad Sch Pharm Sci, Univ of Tokyo, Tokyo, <sup>2</sup>Precursory Research for Embryonic Science and Technology (PRESTO), Japan Science and Technology Agency, Japan
- 2P-219 Simultaneous in vivo whole-cell recordings from the prefrontal cortical neurons and tetrode recordings of neuronal populations in the hippocampus**  
Yuya Nishimura, Takuya Sasaki, Yuji Ikegaya  
Lab Chem Pharmacol, Grad Sch Pharm Sci, Univ of Tokyo, Tokyo
- 2P-220 Temporal order-dependent surprise modulates theta rhythm and auditory recognition memory**  
Yumi Shikauchi, Keiichi Kitajo  
BTCC, RIKEN CBS, Saitama, Japan

- 2P-221 Cellular dynamics of the hippocampus and anterior cingulate cortex in consolidation of spatial memory**  
Ayaka Bota<sup>1,2,3</sup>, Akihiro Goto<sup>2,3</sup>, Alessandro Luchetti<sup>2</sup>, Tanvir Islam<sup>2</sup>, Masamichi Ohkura<sup>1</sup>, Junichi Nakai<sup>1</sup>, Hajime Hirase<sup>1,2</sup>, Yasunori Hayashi<sup>1,2,3</sup>  
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- 2P-222 Regulation of fear memory retrieval by hippocampal TNF $\alpha$**   
Shohei Takahasi, Hotaka Fukushima, Satoshi Kida  
*Department of Bioscience, Tokyo University of Agriculture, Tokyo, Japan*
- 2P-223 hippocampal clock regulates memory retrieval via dopamine D1/5 receptors**  
Tomohiro Rokukawa, Shunsuke Hasegawa, Satoshi Kida  
*Dep. Bioscience, Tokyo Univ. of Agriculture, Tokyo, Japan*
- 2P-224 Molecular mechanisms of hippocampal degeneration and impairments in hippocampal dependent memory induced by Vitamin B1 deficiency**  
Ryuhei Tsuji, Tamae Watanabe, Takuya Kishimoto, Satoshi Kida  
*Dept Bioscience, Tokyo University of Agriculture, Japan*
- 2P-225 Analysis of functional connectivity of mice brain by real-time optical recording**  
Pooja Gusain, Makiko Taketoshi, Yoko Tominaga, Naoko Maeda, Takashi Tominaga  
*Tokushima Bunri University*
- 2P-226 Identification of functional neural circuits in mPFC regulating social behaviors and social recognition memory**  
Kae Sakurachi, Toshiyuki Tanimizu, Rie Ishikawa, Satoshi Kida  
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- 2P-227 Understanding mechanisms for regulation of social behavior and social recognition memory using optogenetics**  
Keisuke Kiyota<sup>1</sup>, Tanimizu Toshiyuki<sup>1</sup>, Nagayoshi Taikai<sup>1</sup>, Ishikawa Rie<sup>1</sup>, Kida Satoshi<sup>1,2</sup>  
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- 2P-228 Investigating the role of distally located dystrophin gene mutation in inducing altered working memory in the patients with Duchenne Muscular Dystrophy**  
Rahul Tyagi, Harshita Arvind, Manju Mohanty, Akshay Anand  
*Postgraduate Institute of Medical Education and Research*
- 2P-229 Spectrum of genomic variation and associated cognitive alterations in Duchenne Muscular Dystrophy**  
Akshay Anand<sup>1</sup>, Rahul Tyagi<sup>1</sup>, Harshita Arvind<sup>1</sup>, Manju Mohanty<sup>2</sup>  
<sup>1</sup>Neuroscience Research Lab, Department of Neurology, PGIMER, Chandigarh, <sup>2</sup>Department of Neurosurgery, PGIMER, Chandigarh
- 2P-230 Improvement of Social Defeat Stress-induced PTSD-like Behaviors by Hippocampal Memory Forgetting Effects of Neurogenesis Enhances**  
Chiaki Uchida, Rie Ishikawa, Satoshi Kida  
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- 2P-231**      **Noradrenergic modulation of aversive memory reconsolidation - from circuits to molecules.**  
 Bao Zhen Tan, Joshua Johansen  
*RIKEN BSI*
- 2P-232**      **Regulation of timing for decision making in *C. elegans***  
 Ichiro Aoki, Ikue Mori  
*Grad Sch Sci, Nagoya Univ, Aichi, Japan*
- 2P-233**      **The striatal GABAA receptor involves in the fear-induced underestimation of time**  
 Taisuke Kamada<sup>1</sup>, Toshimichi Hata<sup>2</sup>  
<sup>1</sup>Grad Sch Psychol, Doshisha Univ, Kyoto, Japan, <sup>2</sup>Fac Psychol, Doshisha Univ, Kyoto, Japan
- 2P-234**      **Impairment of memory consolidation by anesthesia immediately after conditioning**  
 Akiyo Kameyama<sup>1</sup>, Hirotaka Asai<sup>1,2</sup>, Yoshito Saitoh<sup>1,2,3</sup>, Khaled Ghandour<sup>1,2,3</sup>, Reiko Okubo-Suzuki<sup>1,2</sup>, Masanori Nomoto<sup>1,2</sup>, Shuhei Tsujimura<sup>1,2</sup>, Noriaki Ohkawa<sup>1,2,3</sup>, Kaoru Inokuchi<sup>1,2</sup>  
<sup>1</sup>Dept Biochem, Grad Sch Med Pharm Sci., Univ of Toyama, Toyama, <sup>2</sup>CREST, JST, <sup>3</sup>PRESTO, JST
- 2P-235**      **Hippocampal CA3 is involved in associative memory processing via learning-induced high frequent activity**  
 Masanori Nomoto<sup>1,2</sup>, Emi Murayama<sup>1,2</sup>, Noriaki Ohkawa<sup>1,2,3</sup>, Hirofumi Nishizono<sup>2,4</sup>, Mina Matsuo<sup>2,4</sup>, Shin-Ichi Muramatsu<sup>5,6</sup>, Kaoru Inokuchi<sup>1,2</sup>  
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- 2P-236**      **The reason why Alzheimer disease is "Diabetes of the Brain"**  
 Akiko S. S Shingo<sup>1</sup>, Shozo Kito<sup>2</sup>, Toshio Murase<sup>1</sup>  
<sup>1</sup>Okinaka Memorial Institute for Medical Research, Tokyo JPN, <sup>2</sup>Shonan Hospital, Kanagawa JPN
- 2P-237**      **Spatial representations of self and other in the hippocampus**  
 Teruko Danjo, Shigeyoshi Fujisawa  
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- 2P-238**      **In vivo Ca<sup>2+</sup> imaging of fear and extinction neurons in the hippocampus of freely moving mice**  
 Tatsurou Serita, Hotaka Fukushima, Satoshi Kida  
*Dep. Bioscience, Tokyo Univ. of Agriculture, Tokyo, Japan*
- 2P-239**      **Transcriptome analyses of reconsolidation, transition and extinction phases after fear memory retrieval**  
 Hotaka Fukushima, Satoshi Kida  
*Dep. Bioscience, Tokyo Univ. of Agriculture, Tokyo, Japan*
- 2P-240**      **Acute sleep deprivation declines the performance of cued fear learning in rats**  
 Miki Hashizume<sup>1</sup>, Ito Rina<sup>1</sup>, Suge Rie<sup>2</sup>, Hojo Yasushi<sup>1</sup>, Murakoshi Takayuki<sup>1</sup>  
<sup>1</sup>Dept Biochem, Saitama-med univ, Saitama, Japan, <sup>2</sup>Dept Physiol, Saitama-med univ, Saitama, Japan

- 2P-241**      **A Hypothalamo-Hippocampal Circuit Routes Divergent Information for Spatial and Social Memory**  
 Xiyu Wang<sup>1</sup>, Shuo Chen<sup>1</sup>, Linmeng He<sup>1</sup>, Marie E Wintzer<sup>1</sup>, Yanqiu Tao<sup>1</sup>, Arthur J.Y Huang<sup>1</sup>, Denis Polygalov<sup>1</sup>, Roman Boehringer<sup>1</sup>, Hiroshi Hama<sup>2</sup>, Kana Namiki<sup>2</sup>, Atsushi Miyawaki<sup>2</sup>, Thomas J McHugh<sup>1</sup>  
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- 2P-242**      **Reproducing the cognitive function with the robustness against the brain structure and with the efficient learning algorithm**  
 Yoshihisa Fujita<sup>1</sup>, Shin Ishii<sup>1,2</sup>  
<sup>1</sup>Grad Informatics, Kyoto Univ, Kyoto, <sup>2</sup>ATR Cognitive Mechanisms Labs., Kyoto, Japan
- 2P-243**      **Distinct coding of spatial targets in different behavioral contexts by rat perirhinal cortex**  
 Tomoya Ohnuki, Yoshio Sakurai, Junya Hirokawa  
 Graduate School of Brain Science, Doshisha Univ, Kyoto, Japan
- 2P-244**      **Functional characterization of CASK-interacting protein 1 (Caskin1) in mouse**  
 Tayo Katano<sup>1</sup>, Keizo Takao<sup>2,3</sup>, Manabu Abe<sup>4</sup>, Maya Yamazaki<sup>4,5</sup>, Masahiko Watanabe<sup>6</sup>, Tsuyoshi Miyakawa<sup>2,7</sup>, Kenji Sakimura<sup>4</sup>, Seiji Ito<sup>1</sup>  
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- 2P-245**      **Cellular analysis in forgetting of an olfactory memory in *Caenorhabditis elegans***  
 Jamine H Teo<sup>1</sup>, Tomohiro Kitazono<sup>1</sup>, Takeshi Ishihara<sup>1,2</sup>  
<sup>1</sup>Graduate School of System Life Sciences, Kyushu University, <sup>2</sup>Department of Biology, Faculty of Sciences, Kyushu University
- 2P-246**      **Simultaneous in vivo recording of the local field potential and the signal of fluorescent calcium indicator in the hippocampus of Alzheimer's mouse model.**  
 Munenori Ono, Harunori Ohmori, Feng Xu, Nobuo Kato  
 Dept Physiol, Kanazawa Med Univ, Ishikawa, Japan
- 2P-247**      **Effect of haloperidol on memory consolidation after trace eyeblink conditioning in mice**  
 Kento Suto, Kouji Usui, Shigenori Kawahara  
 Graduate School of Science and Engineering, University of Toyama, Toyama, Japan
- 2P-248**      **An internal simulation hypothesis to explain a cognitive process of graspable tools: Internal model learning of the human hand and bodily self-consciousness**  
 Masazumi Katayama, Yusuke Akimaru  
 Graduate School of Engineering, Univ of Fukui, Japan
- 2P-249**      **Analyses of the regulation of forgetting by the food signals in the olfactory learning of *C. elegans***  
 Mary Arai, Akitoshi Inoue, Takeshi Ishihara  
 Dept Biol, Grad Sch Sci, Kyushu Univ., Fukuoka
- 2P-250**      **The role of hippocampal newborn neuron on cognitive flexibility**  
 Junya Koga<sup>1</sup>, Sayumi Yokota<sup>1</sup>, Kazumasa Z Tanaka<sup>2</sup>, Thomas J McHugh<sup>2</sup>, Tatsuhiro Hisatsune<sup>1</sup>  
<sup>1</sup>Dept of Integrated Biosciences, Univ of Tokyo, Kashiwa, Japan, <sup>2</sup>Laboratory for Circuit and Behavioral Physiology, RIKEN BSI, Saitama, Japan

- 2P-251** Regulation of long-term memory processes by *Drosophila* LIM homeodomain transcription factor Apterous in a cofactor-dependent and independent manner  
Sho Inami, Naoto Shimada, Takaomi Sakai  
*Tokyo Metropolitan University, Department of Biological Sciences, Tokyo, Japan*
- 2P-252** The effects of environmental enrichment on the fear memory extinction  
Natsu Koyama, Keita Nakaji, Hiroaki Kitagawa, Takaya Hiramatsu, Kenny Daun, Seiji Hitoshi  
*Dept Physiol, Shiga Univ Med Sci, Shiga, Japan*
- 2P-253** Role of *N*-methyl D-aspartate receptors in eyeblink serial feature-positive discrimination in mice  
Eriko Shibuya, Takashi Goto, Koji Usui, Shigenori Kawahara  
*Grad. Sch. Sci. Eng., Univ. Toyama, Toyama, Japan*
- 2P-254** Differential involvement of calmodulin kinase II $\alpha$  in hippocampus- and amygdala-dependent memory - Analysis using the kinase-dead knock-in mouse  
Yoko Yamagata<sup>1,2</sup>, Yuchio Yanagawa<sup>3</sup>, Keiji Imoto<sup>1,2</sup>  
<sup>1</sup>Div Neural Signaling, Natl Inst for Physiol Sci, Okazaki, Japan, <sup>2</sup>SOKENDAI, Okazaki, Japan, <sup>3</sup>Dept Genet & Behav Neurosci, Grad Sch Med, Gunma Univ, Maebashi, Japan
- 2P-255** Distinct inputs to the entorhinal layer Va and Vb of the rat  
Mariko Onodera<sup>1</sup>, Shinya Ohara<sup>1,2</sup>, Øyvind Wilsgard Simonsen<sup>2</sup>, Hiroyuki Hioki<sup>3,4</sup>, Toshio Iijima<sup>1</sup>, Menno P. Witter<sup>2</sup>, Ken-Ichiro Tsutsui<sup>1</sup>  
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- 2P-256** The performance of aged mice in 1-lever, 3-lever, and reverse 3-lever operant task  
Masataka Nakagawa<sup>1</sup>, Akari Usuda<sup>1</sup>, Hayate Tanigami<sup>1</sup>, Mitsugu Yoneda<sup>1</sup>, Naotoshi Sugimoto<sup>2</sup>, Takako Ohno-Shosaku<sup>1</sup>  
<sup>1</sup>Fac. Health Sci., Kanazawa Univ., Kanazawa, <sup>2</sup>Dept. Physiol., Med. Sci., Kanazawa Univ., Kanazawa
- 2P-257** Effects of epicatechin on long-term memory formed by taste-aversive conditioning and neural activities in the pond snail  
Shogo Nakada<sup>1</sup>, Wataru Saito<sup>2</sup>, Tetsuya Iwahori<sup>3</sup>, Yoshimasa Komatsuzaki<sup>3</sup>, Minoru Saito<sup>1</sup>  
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- 2P-258** Structural Changes of Songs in Zebra Finch by Continuous Application of Thyroid Hormone  
Mariko Iwanaga  
*School of Fundamental Science and Technology, Graduate School of Keio University*
- 2P-259** Analysis of the functional roles of natriuretic peptide family on regulating the sensitive period of chick visual imprinting  
Tomoharu Nakamori, Yurino Chiba, Ami Makita, Tsugumi Okubo, Kasumi Hirai, Hiroko Ohki-Hamazaki  
*Division of Biology, Kitasato Univ, Kanagawa, Japan*
- 2P-260** Clock neurons involved in *period* dependent long-term memory in *Drosophila*  
Yuki Suzuki, Kahori Ienaga, Ikumi Mabuchi, Takaomi Sakai  
*Department of Biological Sciences, Tokyo Metropolitan University, Tokyo, Japan*



- 2P-261 Training functional connectivity and working memory by neurofeedback**  
Masahiro Yamashita<sup>1</sup>, Tomohisa Asai<sup>1</sup>, Hiroshi Imamizu<sup>1,2</sup>  
<sup>1</sup>*Dept Cogn Neurosci, ATR, Kyoto, Japan, <sup>2</sup>Dept Psychol, Univ of Tokyo, Tokyo, Japan*
- 2P-262 A predator odor context enhances the formation of human fear memory associations**  
Jessica Elizabeth Stewart<sup>1</sup>, Hakwan Lau<sup>2,3</sup>, Ben Seymour<sup>4,5,6</sup>, Mitsuo Kawato<sup>1,4</sup>, Ai Koizumi<sup>1,4</sup>  
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- 2P-263 The BK channel knockout mouse is disrupted at proper timing behavior in sustained attention task**  
Masashi Arake<sup>1,2</sup>, Hiroyuki Ohta<sup>3</sup>, Yasushi Sato<sup>4</sup>, Masanori Fujita<sup>5</sup>, Yuji Morimoto<sup>1</sup>, Nariyoshi Shinomiya<sup>1</sup>  
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- 2P-264 Biochemical analysis of dynamic changes for expression and function of active zone proteins CAST and ELKS during reward-related activities**  
Shun Hamada, Toshihisa Ohtsuka  
*Dept of Biochem, Univ of Yamanashi, Yamanashi, Japan*
- 2P-265 Predictive optokinetic response in humans. -Relationship with the velocity storage mechanism**  
Yuta Matsuzawa<sup>1</sup>, Robert Baker<sup>3</sup>, Yutaka Hirata<sup>1,2</sup>  
<sup>1</sup>*Dept Computer Science, Chubu University Graduate School of Engineering, Aichi, Japan, <sup>2</sup>Dept Robotic Science and Technology, Chubu University College of Engineering, Aichi, Japan, <sup>3</sup>Dept Neuroscience and Physiology, New York University Medical School, New York, US*
- 2P-266 Histological identification of brain regions involved in visuospatial working memory in rats by quantitative analysis of immediate-early gene (IEG) expression.**  
Masaru Shiraishi<sup>1</sup>, Masato Ohi<sup>1</sup>, Kei Oyama<sup>2</sup>, Toshio Iijima<sup>1</sup>, Ken-Ichiro Tsutsui<sup>1</sup>  
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## Decision Making

- 2P-267 Decision-making in the Amygdala**  
 Alejandro Tsai Cabal, Julien Courtin, Yael Bitterman, Andreas Luthi  
*Friedrich Miescher Institute*
- 2P-268 Temporally stable expected value signals in ventral, but not in dorsal striatum of monkey**  
Hiroshi Yamada<sup>1,2,3</sup>, Masayuki Matsumoto<sup>1,2,3</sup>  
<sup>1</sup>*Division of Biomedical Science, Faculty of Medicine, University of Tsukuba, <sup>2</sup>Graduate School of Comprehensive Human Sciences, University of Tsukuba, <sup>3</sup>Transborder Medical Research Center, University of Tsukuba*
- 2P-269 A feedforward circuit regulates decision-make process of mating in female Drosophila.**  
Hiroshi Ishimoto, Yoshiko Kondo, Azusa Kamikouchi  
*Division of Biological Science, Graduate School of Science, Nagoya University*

- 2P-270**      **Neuronal mechanisms of interval timing in the monkey dorsomedial frontal cortex**  
Atsushi Chiba, Ken-Ichi Oshio, Masahiko Inase  
*Dept. Physiol., Kindai Univ. Facult. Med., Osaka-Sayama, Japan*
- 2P-271**      **Neural mechanism of flexible learning during hidden goal search task in monkeys**  
Rikako Kato<sup>1</sup>, Akira Murakami<sup>2</sup>, Kei Majima<sup>2</sup>, Yukiyasu Kamitani<sup>2</sup>, Tadashi Isa<sup>1</sup>  
<sup>1</sup>*Dept Physiol. and Neurobiol., Univ of Kyoto, Kyoto, Japan,* <sup>2</sup>*Dept Information Sci. and Technol., Univ of Kyoto, Kyoto, Japan*
- 2P-272**      **Acute mild stress just before the choice task in a familiar situation increases a deliberate tendency in decision-making via monoaminergic systems**  
Maina Ishida, Seiichiro Amemiya, Hideaki Kasahara, Takeshi Nishijima, Ichiro Kita  
*Department of Human Health Science, Tokyo Metropolitan University*
- 2P-273**      **Exposure to serotonin modulates neural activity of RID interneuron and the behavior in *Caenorhabditis elegans*.**  
Haruka Mori<sup>1</sup>, Keita Ashida<sup>1</sup>, Hisashi Shidara<sup>2</sup>, Kohji Hotta<sup>1</sup>, Kotaro Oka<sup>1</sup>  
<sup>1</sup>*Department of Biosciences and Informatics, Faculty of Science and Technology, Keio University,* <sup>2</sup>*Dept Biol Sci, Fac Sci, Hokkaido Univ, Sapporo*
- 2P-274**      **Continuous attentional demand may prevent habit formation in rats**  
Ziqiao Lin<sup>1</sup>, Hiromi Nishikawa<sup>1</sup>, Yoshio Iguchi<sup>2</sup>, Akira Iwanami<sup>3</sup>, Yoshio Minabe<sup>1</sup>, Shigenobu Toda<sup>1,3</sup>  
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- 2P-275**      **The active inference in decision making by adult zebrafish revealed by *in-vivo* imaging of the telencephalic neural activities in the closed-loop virtual reality environment**  
Makio Torigoe<sup>1</sup>, Tanvir Islam<sup>1</sup>, Hisaya Kakinuma<sup>1</sup>, Chi Chung Alan Fung<sup>3</sup>, Takuya Isomura<sup>2</sup>, Hideaki Shimazaki<sup>2</sup>, Tazu Aoki<sup>1</sup>, Taro Toyoizumi<sup>2</sup>, Tomoki Fukai<sup>3</sup>, Hitoshi Okamoto<sup>1</sup>  
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- 2P-276**      **Navigation process of phonotaxis in female crickets**  
Hisashi Shidara<sup>1</sup>, Naoto Hommaru<sup>2</sup>, Hiroto Ogawa<sup>1</sup>  
<sup>1</sup>*Dept Biol Sci, Fac Sci, Hokkaido Univ, Sapporo, Japan,* <sup>2</sup>*Grad Sch of Life Sci, Hokkaido Univ, Sapporo, Japan*
- 2P-277**      **Identification of indirect pathway neurons and dopaminergic innervation in the rat dorsomedial striatum**  
Satoshi Nonomura<sup>1</sup>, Shigeki Kato<sup>2</sup>, Yoshio Iguchi<sup>2</sup>, Kayo Nishizawa<sup>2</sup>, Yutaka Sakai<sup>1</sup>, Yasuo Kawaguchi<sup>3</sup>, Atsushi Nambu<sup>4</sup>, Masahiko Watanabe<sup>5</sup>, Kazuto Kobayashi<sup>2</sup>, Yoshikazu Isomura<sup>1</sup>, Minoru Kimura<sup>1</sup>  
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- 2P-278**      **Subthreshold decision in visual cue detection task in rats**  
Yuma Osako, Yoshio Sakurai, Junya Hirokawa  
*Graduate School of Brain Science, Doshisha University*


- 2P-279**      **Topographic distinction of reward value signals in the presumed dopamine neurons and striatal projection neurons in monkeys.**  
Kazuki Enomoto<sup>1</sup>, Naoyuki Matsumoto<sup>2</sup>, Hitoshi Inokawa<sup>3</sup>, Hiroshi Yamada<sup>4</sup>, Minoru Kimura<sup>5</sup>  
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- 2P-280**      **Representations of reward value and choice behavior in primate midbrain dopamine neurons and orbitofrontal neurons in a single-option decision-making task**  
Mengxi Yun<sup>1</sup>, Takashi Kawai<sup>2</sup>, Masafumi Nejime<sup>2</sup>, Hiroshi Yamada<sup>2</sup>, Masayuki Matsumoto<sup>2</sup>  
<sup>1</sup>Biomed Sci, Grad Sch of Comprehensive Human Sci, Univ Tsukuba, Tsukuba, Japan, <sup>2</sup>Faculty of Med, Univ Tsukuba, Tsukuba, Japan
- 2P-281**      **Behavioral Analysis of Tolerance to Delayed Reward in Rats Using Two-choice Maze**  
Jotaro Yuza<sup>1</sup>, Masaki Okubo<sup>1</sup>, Yutaka Komura<sup>2</sup>, Riichi Kajiwar<sup>1</sup>  
<sup>1</sup>Graduate School of Electronics & Bioinformatics., Meiji Univ., Kawasaki, Japan, <sup>2</sup>Graduate School of Human and Environmental Studies, Kyoto University Kyoto Japan

## Aging

- 2P-282**      **The role of RP58 in the maintenance of cognitive function**  
Tomoko Tanaka, Haruo Okado  
Tokyo Metropolitan Institute of Medical Science, Tokyo Japan
- 2P-283**      **Exercise-Induced Hippocampal Anti-Inflammatory Response In A Senescence-Accelerated Mouse**  
Kazuki Nakanishi, Shotaro Otsuka, Seiya Takada, Takuto Terashi, Koki Ueda, Megumi Sumizono, Harutoshi Sakakima  
Course of Physical Therapy, School of Health Sciences, Faculty of Medicine, Kagoshima University, Kagoshima, Japan
- 2P-284**      **The effect of regular physical activity of age-related cognitive behavior in the senescence-accelerated mice is associated with neuronal degeneration.**  
Fumiyo Matsuda, Higuchi Itsuro, Yone Kazunori  
Course of Physical Therapy, School of Health Sciences, Faculty of Medicine, Kagoshima University, Japan

## Others

- 2P-285**      **Neural and behavioral evidence for unconscious control of performance in fatigue: a magnetoencephalography study**  
Akira Ishii<sup>1</sup>, Masaaki Tanaka<sup>2</sup>, Takahiro Yoshikawa<sup>1</sup>, Yasuyoshi Watanabe<sup>3</sup>  
<sup>1</sup>Sports medicine, Osaka City University Graduate School of Medicine, Osaka, Japan, <sup>2</sup>Physiology, Osaka City University Graduate School of Medicine, Osaka, Japan, <sup>3</sup>RIKEN Center for Life Science Technologies
- 2P-286**      **Brain areas associated with the bodily self-attribution: The rubber hand illusion and rubber foot illusion.**  
Nanae Matsumoto<sup>1</sup>, Ryusuke Nakai<sup>2</sup>, Akira Mitani<sup>1</sup>  
<sup>1</sup>Department of Human Health Science, Graduate School of Medicine, Kyoto University, <sup>2</sup>Kokoro reserch center, Kyoto Univ.

- 2P-287** **THE PACAP-PAC1R PATHWAY IN NATURALLY CYCLING FEMALE MICE: A TRANSLATIONAL MODEL OF POSTTRAUMATIC STRESS DISORDER IN WOMEN.**  
 Africa Flores<sup>1</sup>, Antonio Florido<sup>1</sup>, Raul Andero<sup>1,2,3</sup>  
<sup>1</sup>Institute of Neurosciences, Autonomous University of Barcelona, <sup>2</sup>CIBERSAM, Health Corporation Parc Tauli, Sabadell, Spain, <sup>3</sup>Department of Psychobiology and Methodology in Health Sciences, Autonomous University of Barcelona, Bellaterra, Spain
- 2P-288** **The cortical projection of ventral tegmental area neurons in rats: study with double infection of retrograde and anterograde viral vectors**  
 Yoshinori Koshimizu<sup>1,3</sup>, Kenta Kobayashi<sup>2,3</sup>, Kaoru Isa<sup>1,3</sup>, Tadashi Isa<sup>1,3</sup>  
<sup>1</sup>Dept Physiol & Neurobiol, Grad Sch Med, Kyoto Univ, Kyoto, Japan, <sup>2</sup>Lab Viral Vector Development, Natl Inst Physiol Sci, Okazaki, Japan, <sup>3</sup>CREST, JST, Tokyo, Japan
- 2P-289** **A three-dimensional behavioral monitoring system for small primates developed by using depth image sensors**  
 Akitoshi Hanazawa<sup>1</sup>, Naho Konoike<sup>2</sup>, Katsuki Nakamura<sup>2</sup>  
<sup>1</sup>Dept Basic Science, Kyushu Inst Tech, Fukuoka, Japan, <sup>2</sup>Primate Res Inst, Kyoto Univ, Aichi, Japan
- 2P-290** **A cross-sectional fNIRS study on resting state connectivity in term, preterm and very preterm infants**  
 Yasuyo Minagawa<sup>1</sup>, Takeshi Arimitsu<sup>2</sup>, Naomi Shinohara<sup>2</sup>, Ei-ichi Hoshino<sup>1</sup>, Masahiro Hata<sup>1</sup>, Takao Takahashi<sup>2</sup>  
<sup>1</sup>Dept Psychol, Keio Univ, Tokyo, Japan, <sup>2</sup>Dept Pediatr, Keio Univ, Tokyo, Japan
- 2P-291** **Different involvement of insula in initial taste detection and aftertaste discrimination in flavor perception**  
 Muneyoshi Takahashi<sup>1</sup>, Takayuki Fujii<sup>1</sup>, Atsushi Miyazaki<sup>1</sup>, Toru Ishihara<sup>1</sup>, Hiroki Tanaka<sup>1</sup>, Shinsuke Shimojo<sup>1,2</sup>, Tetsuya Matsuda<sup>1</sup>  
<sup>1</sup>Tamagawa Univ Brain Sci Inst, Tokyo, Japan, <sup>2</sup>Div Biol & Biol Eng/Comp & Neural Sys, California Inst Tech, Pasadena, CA, USA

## Sensory Disorders


- 2P-292** **Analysis of cell-cell interaction between artificial peripherin positive nociceptive neurons activation and lewis lung carcinoma cells (LLC):Tumor growth aggravated by artificial nociceptive neuron activation**  
 Takashige Kondo<sup>1</sup>, Yusuke Hamada<sup>1</sup>, Kazuki Tanabe<sup>1</sup>, Kiwamu Sakurai<sup>1</sup>, Daisuke Oikawa<sup>1</sup>, Chizuru Iwasawa<sup>1</sup>, Michiko Narita<sup>1</sup>, Naoko Kuzumaki<sup>1</sup>, Akihiro Yamanaka<sup>2</sup>, Minoru Narita<sup>1,3</sup>  
<sup>1</sup>Dept. Pharmacol., Hoshi Univ. Sch. Pharm. Tokyo, Japan, <sup>2</sup>Dept. Neurosci. II, RIEM, Nagoya Univ. Aichi, Japan, <sup>3</sup>Life Science Tokyo Advanced research center (L-StaR), Hoshi Univ. Sch. Pharm. Tokyo, Japan
- 2P-293** **Establishment of a new animal model for hereditary sensory autonomic neuropathy VI by conditional deletion of dystonin in the peripheral nervous system**  
 Nozomu Yoshioka<sup>1,2</sup>, Hirohide Takebayashi<sup>1</sup>  
<sup>1</sup>Div of Neurobiol and Anat, Grad Sch of Med and Dent Sci, Niigata Univ, Niigata, Japan, <sup>2</sup>Trans Res Prog, Niigata Univ, Niigata, Japan

## Cerebrovascular Disease and Ischemia

- 2P-294**      **PDGFR- $\beta$  restores blood-brain barrier functions in a mouse model of focal cerebral ischemia**  
Jie Shen<sup>1</sup>, Guihua Xu<sup>2</sup>, Renxiu Zhu<sup>1</sup>, Jun Yuan<sup>1</sup>, Yoko Ishii<sup>3</sup>, Masakiyo Sasahara<sup>3</sup>  
<sup>1</sup>Dept Neurology, Inner Mongolia People's Hospital, Inner Mongolia, China, <sup>2</sup>Dept Clinical Medical Research Center, Inner Mongolia People's Hospital, Inner Mongolia, China, <sup>3</sup>Department of Pathology, Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama, Toyama, Japan
- 2P-295**      **Constraint-induced movement therapy improves efficacy of task-specific training after severe cortical stroke depending on the ipsilesional corticospinal projections**  
Naohiko Okabe, Naoyuki Himi, Emi Nakamura-Maruyama, Osamu Miyamoto  
*2nd Dept Physiol, Kawasaki Med Sch, Okayama, Japan*
- 2P-296**      **Anti-inflammatory and antioxidant effects of pine needle extract against neuronal death after cerebral ischemia in gerbils**  
Kimikazu Fujita<sup>1</sup>, Nobuko Yoshimoto<sup>2</sup>, Chiyuki Kaneko<sup>3</sup>, Mahito Ohkuma<sup>1</sup>, Soh Hidaka<sup>1</sup>, Eiichi Miyachi<sup>1</sup>  
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- 2P-297**      **Selective blockade of cortico-rubral and cortico-reticular tract impaired rehabilitation-induced functional recovery in internal capsule hemorrhage rats**  
Akimasa Ishida<sup>1</sup>, Kenta Kobayashi<sup>2</sup>, Tadashi Isa<sup>3</sup>, Hideki Hida<sup>1</sup>  
<sup>1</sup>Dept Neurophysiol & Brain Sci, Nagoya City Univ, Nagoya, <sup>2</sup>Sec Viral Vector Dev, Natl Inst Physiol Sci, Okazaki, Japan, <sup>3</sup>Dept Physiol and Neurobiol, Kyoto Grad Sch Med, Kyoto, Japan
- 2P-298**      **Effect of repetitive transcranial magnetic stimulation on neuronal network for central post-stroke pain model monkeys**  
Yoshinori Kadono<sup>1</sup>, Koichi Hosomi<sup>1,2</sup>, Kenichi Okada<sup>3,4</sup>, Motoki Hiraishi<sup>3</sup>, Keigo Koguchi<sup>3</sup>, Guoxiang Liu<sup>4</sup>, Ikuhiro Kida<sup>4</sup>, Takashi Ueguchi<sup>4</sup>, Yoichi Saitoh<sup>1,2</sup>, Yasushi Kobayashi<sup>2,3,4</sup>  
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- 2P-299**      **Early rehabilitation inhibits inflammation and aids motor function recovery after intracerebral hemorrhage in rats**  
Keigo Tamakoshi<sup>1</sup>, Kazuto Ishida<sup>2</sup>, Keishi Hayao<sup>1</sup>, Hideaki Takahashi<sup>1</sup>, Hiroyuki Tamaki<sup>1</sup>  
<sup>1</sup>Dept. of Phys. Ther. Niigata Univ. of Health and Welfare, <sup>2</sup>Dept. of Phys. Ther, Nagoya Univ Grad. Sch. of Med.
- 2P-300**      **Inhibition of Semaphorin 3A enhances axonal outgrowth and improves functional recovery after stroke**  
Yuji Ueno<sup>1</sup>, Kenichiro Hira<sup>1</sup>, Ryota Tanaka<sup>1</sup>, Nobukazu Miyamoto<sup>1</sup>, Kazuo Yamashiro<sup>1</sup>, Takao Urabe<sup>2</sup>, Hideyuki Okano<sup>3</sup>, Nobutaka Hattori<sup>1</sup>  
<sup>1</sup>Department of Neurology, Juntendo University School of Medicine, Tokyo, Japan, <sup>2</sup>Department of Neurology, Juntendo University Urayasu Hospital, <sup>3</sup>Department of Physiology, Keio University School of Medicine

- 2P-301** Expression patterns of brain pericytic markers at different time points after ischemic stroke in mice  
Ryo Nishiyama<sup>1</sup>, Rika Sakuma<sup>1</sup>, Rikako Sawada<sup>1,2</sup>, Saeko Kamachi<sup>1</sup>, Akiko Doi<sup>1</sup>, Takayuki Nakagomi<sup>1</sup>, Tomohiro Matsuyama<sup>1</sup>  
<sup>1</sup>Institute for Advanced Medical Sciences, Hyogo College of Medicine, Hyogo, Japan, <sup>2</sup>Graduate School of Science and Technology, Kwansei Gakuin University, Hyogo, Japan
- 2P-302** Carbachol induces expression of the mitochondrial uncoupling protein 4 (UCP4) in neurons  
Yasuko Fukushi, Chuanqi Sun, Seiji Yamamoto  
Hamamatsu Univ School of Medicine, Hamamatsu
- 2P-303** Neuroprotective effect of different frequency preconditioning exercise on down-regulation of Bax/Bcl-2 confers apoptosis after cerebral infarction in rats  
Takuto Terashi, Shotaro Otsuka, Kazuki Nakanishi, Koki Ueda, Seiya Takada, Megumi Sumizono, Harutoshi Sakakima  
Course of Physical Therapy, School of Health Science, Faculty of Medicine, Kagoshima University
- 2P-304** Layer-dependent recovery of tactile sensory processing in mouse primary somatosensory cortex after a focal motor cortex stroke  
Atsushi Fukui<sup>1,2</sup>, Osaki Hironobu<sup>3</sup>, Yoshifumi Ueta<sup>3</sup>, Yoshihiro Muragaki<sup>1,2</sup>, Takakazu Kawamata<sup>2</sup>, Miyata Mariko<sup>3</sup>  
<sup>1</sup>Faculty of Advanced Techno-Surgery, Institute of Advanced Biomedical engineering and Science, Graduated School of Medicine, Tokyo Women's medical University, Tokyo, Japan, <sup>2</sup>Department of Neurosurgery, Tokyo Women's medical University, Tokyo, Japan, <sup>3</sup>Department of Physiology I (Neurophysiology), Tokyo Women's medical University, Tokyo, Japan
- 2P-305** Adrenergic receptor antagonism induces neuroprotection and facilitates recovery from acute ischemic stroke  
Hiromu Monai<sup>1,2</sup>, Xiaowen Wang<sup>2</sup>, Kazuko Yahagi<sup>2</sup>, Nanhong Lou<sup>3</sup>, Humberto Mestre<sup>3</sup>, Qiwu Xu<sup>3</sup>, Yoichiro Abe<sup>4</sup>, Masato Yasui<sup>4</sup>, Youichi Iwai<sup>2</sup>, Maiken Nedergaard<sup>3</sup>, Hajime Hirase<sup>2,5</sup>  
<sup>1</sup>Ochanomizu Univ, Tokyo, Japan, <sup>2</sup>RIKEN BSI, Wako, Japan, <sup>3</sup>Univ of Rochester Medical Center, Rochester, USA, <sup>4</sup>School of Medicine, Keio Univ, <sup>5</sup>Saitama Univ, Saitama, Japan

## Alzheimer's Disease and Dementia

- 2P-306** Cell type-specific contributions of APOE4 to Alzheimer disease-associated phenotypes in human iPSC-derived neurons, glia and cerebral organoids  
 Jinsoo Seo<sup>1</sup>, Yuan-Ta Lin<sup>2</sup>, Fan Gao<sup>2</sup>, Waseem Raja<sup>2</sup>, Hugh Cam<sup>2</sup>, Li-Huei Tsai<sup>2</sup>  
<sup>1</sup>Daegu Gyeongbuk Institute of Science and Technology, <sup>2</sup>Massachusetts Institute of Technology
- 2P-307** Tau regulates food intake and body weight.  
Yusuke Fujioka<sup>1</sup>, Shinsuke Ishigaki<sup>1</sup>, Kaori Kawai<sup>1</sup>, Nobuyuki Iwade<sup>1</sup>, Kuniyuki Endo<sup>1</sup>, Minaka Ishibashi<sup>1</sup>, Satoshi Yokoi<sup>1</sup>, Hirohisa Watanabe<sup>1</sup>, Tomohiro Miyasaka<sup>2</sup>, Masahisa Katsuno<sup>1</sup>, Gen Sobue<sup>3</sup>  
<sup>1</sup>Department of Neurology, Nagoya University Graduate School of Medicine, Nagoya, Japan, <sup>2</sup>Neuropathology, Department of Life and Medical Systems, Faculty of Life and Medical Sciences, Doshisha University, Kyoto, Japan, <sup>3</sup>Research Division of Dementia and Neurodegenerative Disease, Nagoya University of Graduate school of Medicine, Nagoya, Japan

- 2P-308 Targeting Tyro3 ameliorates PGRN-mutant FTLD-TDP model via tau-mediated synapse pathology**  
Xigui Chen<sup>1</sup>, Kyouta Fujita<sup>1</sup>, Hidenori Homma<sup>1</sup>, Kazuhiko Tagawa<sup>1</sup>, Mutsuki Amano<sup>2</sup>, Ayumu Saito<sup>3</sup>, Seiya Imoto<sup>4</sup>, Hiroyasu Akastu<sup>5</sup>, Yoshio Hashizume<sup>6</sup>, Kozo Kaibuchi<sup>2</sup>, Satoru Miyano<sup>3</sup>, Hitoshi Okazawa<sup>1</sup>  
<sup>1</sup>Department of Neuropathology, Medical Research Institute and Center for Brain Integration Research, Tokyo Medical and Dental University, <sup>2</sup>Department of Cell Pharmacology, Graduate School of Medicine, Nagoya University, <sup>3</sup>Human Genome Center, Institute of Medical Science, The University of Tokyo, <sup>4</sup>Health Intelligence Center, Institute of Medical Science, The University of Tokyo, <sup>5</sup>Department of Medicine for Aging in Place and Community-Based Medical Education, Nagoya City University Graduate School of Medical Sciences, <sup>6</sup>Department of Neuropathology, Institute for Medical Science of Aging, Aichi Medical University
- 2P-309 In vivo imaging of intracellular organelle in neurons of Alzheimer's disease and other neurodegenerative disease model.**  
Kano H Kondo<sup>1</sup>, Xigui Chen<sup>1</sup>, Kazumi Motoki<sup>1</sup>, Hidenori Homma<sup>1</sup>, Hitoshi Okazawa<sup>1,2</sup>  
<sup>1</sup>Department of Neuropathology, Medical Research Institute, Tokyo Medical and Dental University, <sup>2</sup>Center for Brain Integration Research, Tokyo Medical and Dental University
- 2P-310 Emotional and cognitive alterations in *App* knock-in mouse models of A $\beta$  amyloidosis**  
Yasufumi Sakakibara<sup>1</sup>, Michiko Sekiya<sup>1</sup>, Takashi Saito<sup>2</sup>, Takaomi C Saido<sup>2</sup>, Koichi M Iijima<sup>1</sup>  
<sup>1</sup>Dept Alzheimer's Dis Res, Natl Center Geriatrics and Gerontology, Aichi, Japan, <sup>2</sup>Laboratory for Proteolytic Neuroscience, RIKEN BSI, Saitama, Japan
- 2P-311 Cognitive function and brain volume at the baseline predict the improvement of physical exercise with music in patients with dementia: Mihama-Kiho Scan Project 2**  
Kenichi Tabei<sup>1,2</sup>, Masayuki Satoh<sup>1</sup>, Jun-Ichi Ogawa<sup>3</sup>, Tomoko Tokita<sup>4</sup>, Noriko Nakaguchi<sup>5</sup>, Koji Nakao<sup>6</sup>, Hirotaka Kida<sup>1</sup>, Hidekazu Tomimoto<sup>2</sup>  
<sup>1</sup>Dept Dementia Prev Therap, Mie Univ, Mie, Japan, <sup>2</sup>Dept Neurology, Mie Univ, Mie, Japan, <sup>3</sup>YAMAHA Music Foundation, Tokyo, Japan, <sup>4</sup>Dept Health and Welfare, Mihama Town Hall, Mie, Japan, <sup>5</sup>Dept Health and Welfare, Kiho Town Hall, Mie, Japan, <sup>6</sup>Dept Neurosurgery, Kinan Hospital, Mie, Japan
- 2P-312 SV2B can regulate BACE1 localization and its activity**  
Masakazu Miyamoto<sup>1,2</sup>, Yasuha Noda<sup>2</sup>, Akira Kuzuya<sup>1</sup>, Kengo Uemura<sup>1</sup>, Megumi Asada-Utsugi<sup>1,2</sup>, Shinji Ito<sup>3</sup>, Yoshiyasu Fukusumi<sup>4</sup>, Hiroshi Kawachi<sup>4</sup>, Ryosuke Takahashi<sup>1</sup>, Ayae Kinoshita<sup>2</sup>  
<sup>1</sup>Dept. Neuro. Grad. Sch. Med. Kyoto Univ, <sup>2</sup>Dept. Human Health Sci. Grad Sch. Med. Kyoto Univ, <sup>3</sup>Medical Research Support Center. Grad. Sch. Med. Kyoto Univ, <sup>4</sup>Dept. Cell Biol. Inst of Nephrol. Grad. Sch. Med and Dental Sci. Niigata Univ
- 2P-313 Impact of chronic intermittent hypoxia on neurocognitive decline in an animal model of Alzheimer's disease**  
Wing Ho Yung<sup>1,2</sup>, Chun Kwan O<sup>1</sup>, Lida Du<sup>1</sup>, Linting Geng<sup>1</sup>, Ya Ke<sup>1,2</sup>  
<sup>1</sup>School of Biomedical Sciences, The Chinese University of Hong Kong, <sup>2</sup>Gerald Choa Neuroscience Centre, Faculty of Medicine, The Chinese University of Hong Kong
- 2P-314 Chronic cerebral hypoperfusion increases amyloid plaques by accelerating amyloid beta aggregation in APP/PS1 transgenic mice.**  
Taro Bannai<sup>1</sup>, Atsushi Iwata<sup>1</sup>, Tatsuo Mano<sup>1</sup>, Ryo Ohtomo<sup>1,2</sup>, Gaku Ohtomo<sup>1</sup>, Tadafumi Hashimoto<sup>3</sup>, Takeshi Iwatsubo<sup>3</sup>, Tatsushi Toda<sup>1</sup>  
<sup>1</sup>Department of Neurology, The University of Tokyo, Tokyo, Japan, <sup>2</sup>Department of Radiology and Neurology, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, USA, <sup>3</sup>Department of Neuropathology, The University of Tokyo, Tokyo, Japan
- 2P-315 the Annual Report, the Brain Bank for Aging Research**  
Shigeo Murayama<sup>1</sup>, Renpei Sengoku<sup>1</sup>, Maki Obata<sup>2</sup>, Yuko Saito<sup>1,2</sup>  
<sup>1</sup>Brain Bank for Aging Research, TMGHIG, <sup>2</sup>Dept Patho and Labo Med, NCNP



- 2P-316**      **Short-term intake of high fat diet decreases exclusively adult neurogenesis of dorsal hippocampus in male mice**  
Yusuke Murata, Chiho Hamasaki, Tomomi Matsuo, Masayoshi Mori, Kenji Ohe, Munechika Enjoji  
*Dept Pharmacotherapeutics, Fac Pharmaceut Sci, Fukuoka Univ, Fukuoka, Japan*
- 2P-317**      **Beneficial effects of a new synthetic carbazole-based cyanine molecule in an animal model of Alzheimer's disease**  
Ya Ke<sup>1,2</sup>, Sheng-Xi Yang<sup>1</sup>, Xiao-Man Zhang<sup>1</sup>, Man-Shing Wong<sup>3</sup>, Wing-Hung Li<sup>3</sup>, Wing Ho Yung<sup>1,2</sup>  
<sup>1</sup>*School of Biomedical Sciences, The Chinese University of Hong Kong*, <sup>2</sup>*Gerald Choa Neuroscience Centre, The Chinese University of Hong Kong*, <sup>3</sup>*Department of Chemistry, Faculty of Science, Hong Kong Baptist University*
- 2P-318**      **Serum Calcium-Decreasing Factor, Caldecrin, Protects Against Amyloid- $\beta$  Toxicity Through Proteolytic Cleavage**  
Mineko Tomomura<sup>1,2</sup>, Akito Tomomura<sup>1</sup>, Hiroyuki Kamiguchi<sup>3</sup>  
<sup>1</sup>*Div Biochem, Meikai Univ, Sch Dent, Saitama, Japan*, <sup>2</sup>*M-RIO, Meikai Univ, Sch Dent, Saitama, Japan*, <sup>3</sup>*Neuronal Growth Mechanisms, RIKEN BSI, Saitama, Japan*
- 2P-319**      **Morphological analysis of the projection pattern from the hippocampus to the medial prefrontal cortex in Alzheimer mouse model.**  
Feng Xu<sup>1</sup>, Munenori Ono<sup>1</sup>, Tetsufumi Ito<sup>2</sup>, Nobuo Kato<sup>1</sup>  
<sup>1</sup>*Dept Physiol, Kanazawa Med Univ, Ishikawa*, <sup>2</sup>*Dept Anat, Kanazawa Med Univ, Ishikawa*
- 2P-320**      **The pathogenic roles of amyloid- $\beta$  on interactions among pericytes, oligodendrocyte precursor cells, and endothelial cells**  
Masaru Toyokawa<sup>1</sup>, Takakuni Maki<sup>2</sup>, Megumi Asada<sup>1</sup>, Seiji Kaji<sup>2</sup>, Yoshitaka Tashiro<sup>3</sup>, Takahashi Ryosuke<sup>2</sup>, Ayae Kinoshita<sup>1</sup>  
<sup>1</sup>*Department of Human Health Science, Graduate School of Medicine, Kyoto University, Kyoto, Japan*, <sup>2</sup>*Department of Neurology, Graduate School of Medicine, Kyoto University, Kyoto, Japan*, <sup>3</sup>*SKPJ MIC Grad Schl Med, Kyoto Univ, Kyoto, Japan*
- 2P-321**      **Differential effects of human and mouse apolipoprotein E on the metabolism and aggregation of amyloid- $\beta$  peptides**  
Asuka Kokawa<sup>1</sup>, Yutaro Ohno<sup>2</sup>, Tadafumi Hashimoto<sup>1</sup>, Takeshi Iwatsubo<sup>1</sup>  
<sup>1</sup>*Dept Neuropathology, Univ of Tokyo, Tokyo, Japan*, <sup>2</sup>*Dept Neuropathology and Neuroscience, Univ of Tokyo, Tokyo, Japan*
- 2P-322**      **The relationship between insulin resistance and amyloid pathology in diabetic AD model mice**  
Kentaro Matsui<sup>1</sup>, Kazuki Yamaguchi<sup>1</sup>, Ayako Mano<sup>1</sup>, Toshiharu Sano<sup>1</sup>, Tadafumi Hashimoto<sup>1</sup>, Tetsuya Kubota<sup>2</sup>, Naoto Kubota<sup>2</sup>, Takashi Kadowaki<sup>2</sup>, Tomoko Wakabayashi<sup>1</sup>, Takeshi Iwatsubo<sup>1</sup>  
<sup>1</sup>*Dept Med, Univ of Tokyo, Tokyo, Japan*, <sup>2</sup>*Dept Diabetes and Metabolic diseases, Univ of Tokyo Hospital, Tokyo, Japan*
- 2P-323**      **iPSC-Based Compound Screening and In Vitro Trials Identify a Synergistic Anti-amyloid  $\beta$  Combination for Alzheimer's Disease**  
Takayuki Kondo<sup>1,2</sup>, Haruhisa Inoue<sup>1,2</sup>  
<sup>1</sup>*Center for iPS Cell Research and Application (CiRA), Kyoto University*, <sup>2</sup>*RIKEN*
- 2P-324**      **Amyloidogenic and non-amyloidogenic pathway of amyloid precursor protein processing in oligodendrocyte lineage cells**  
Takakuni Maki<sup>1</sup>, Misaki Hida<sup>2</sup>, Megumi Asada<sup>2</sup>, Ryosuke Takahashi<sup>1</sup>, Ayae Kinoshita<sup>2</sup>  
<sup>1</sup>*Dept Neurol, Univ of Kyoto, Kyoto, Japan*, <sup>2</sup>*Dept Human Health Sciences, Univ of Kyoto, Kyoto, Japan*

- 2P-325**      **The relationship between microtubule associated protein Tau and synaptic adhesion protein N-cadherin**  
 Kyosuke Tanigawa<sup>1</sup>, Megumi Asada<sup>1,2</sup>, Kengo Uemura<sup>3</sup>, Ayae Kinoshita<sup>1</sup>  
<sup>1</sup>Department of Human Health Science, Graduate School of Medicine, Kyoto University, Kyoto, Japan, <sup>2</sup>Shiga Univ of Medical Science, Shiga, Japan, <sup>3</sup>Clinical Neurology, Kyoto University Hospital, Kyoto, Japan
- 2P-326**      **Abnormal detection of early Alzheimer's disease model mouse by diffusion MRI**  
 Ryusuke Irie<sup>1,2</sup>, Koji Kamagata<sup>1</sup>, Masaaki Hori<sup>1</sup>, Yuki Takenaka<sup>3</sup>, Kazuhiko Tagawa<sup>4</sup>, Hitoshi Okazawa<sup>4</sup>, Junichi Hata<sup>5,6</sup>, Hideyuki Okano<sup>5,6</sup>, Aurelien Kerever<sup>7</sup>, Eri Arikawa Hirasawa<sup>7</sup>, Shigeki Aoki<sup>1</sup>  
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- 2P-327**      **Enhancement of neuronal A $\beta$ -degrading enzyme neprilysin activity by aliphatic catechin derivatives**  
 Yuma Hori<sup>1</sup>, Kaori Watanabe<sup>1</sup>, Yuka Jiuchi<sup>1</sup>, Kei Okita<sup>1</sup>, Ryoma Suga<sup>2</sup>, Daisuke Hatta<sup>1</sup>, Asmaa Said Ali Yassen<sup>3</sup>, Hao Qian<sup>3</sup>, Keiro Shirotani<sup>1</sup>, Takashi Tanaka<sup>3</sup>, Nobuhisa Iwata<sup>1</sup>  
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## Depression and Bipolar Disorders

- 2P-328**      **Dietary supplementation of hesperidin increased stress resilience in a subchronic and mild social defeat model of mice**  
 Mizuho Sato<sup>1</sup>, Kazunori Suzuki<sup>2</sup>, Natsuki Ohsawa<sup>2</sup>, Arata Okuno<sup>3,4</sup>, Eiich Inoue<sup>1,2,3</sup>, Yuji Miyaguchi<sup>1,2,3</sup>, Atsushi Toyoda<sup>1,2,3</sup>  
<sup>1</sup>United Graduate School of Agricultural Science, Tokyo University of Agriculture and Technology, <sup>2</sup>College of Agriculture, Ibaraki University, <sup>3</sup>Ibaraki University Cooperation between Agriculture and Medical Science (IUCAM), <sup>4</sup>Department of Health and Nutrition, Tsukuba international University
- 2P-329**      **Antidepressant-like effects of selegiline through its restoration potency of impaired synaptic plasticity in the hippocampus of rodents**  
 Toshiko Ishikawa, Motoki Okano, Akiko Minami, Hiroko Tsunekawa, Hiroshi Satoyoshi, Yuka Tsukamoto, Kazue Takahata, Shizuko Muraoka  
 Department of Scientific Research, Fujimoto Pharmaceutical Corporation, Osaka, Japan
- 2P-330**      **Smaller ventral striatum volumes may predict clinical response to aripiprazole augmentation in treatment-resistant late-life depression**  
 Fernando Caravaggio, Nathan Chan, Daniel M. Blumberger, Eric Plitman, Jun Ku Chung, Philip Gerretsen, Mallar Chakravarty, Benoit Mulsant, Gary Remington, Ariel Graff-Guerrero  
 University of Toronto
- 2P-331**      **A meta-analysis of cerebrospinal fluid monoamine metabolite concentrations in depressive disorder**  
 Shintaro Ogawa, Shoko Tsuchimine, Hiroshi Kunugi  
 Dept Mental Disorder Res, Natl Inst of Neuroscience, Natl Center of Neurology and Psychiatry

- 2P-332**      **The relation between cerebrospinal fluid D-serine and G72 concentrations in the patients with Major depressive disorder**  
Sayuri Ishiwata<sup>1,3</sup>, Kotaro Hattori<sup>1,2</sup>, Daimei Sasayama<sup>1</sup>, Toshiya Teraishi<sup>1</sup>, Tomoko Miyakawa<sup>2</sup>, Yuuki Yokota<sup>2</sup>, Ryo Matsumura<sup>2</sup>, Fuyuko Yoshida<sup>1</sup>, Toru Nishikawa<sup>3</sup>, Hiroshi Kunugi<sup>1</sup>  
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- 2P-333**      **Expression change of desmoplakin by antidepressant treatments and its function in dentate gyrus of hippocampus**  
Keisuke Otsubo<sup>1</sup>, Eri Segi-Nishida<sup>1,2</sup>  
<sup>1</sup>Department of Biological Science and Technology, Faculty of Industrial Science and Technology, Tokyo University of Science, Tokyo, Japan, <sup>2</sup>Physiological Chemistry, Kyoto University Graduate School of Pharmaceutical Science, Kyoto, Japan
- 2P-334**      **Effect of glucocorticoids on chaperone-mediated autophagy and microautophagy**  
Masahiro Sato<sup>1</sup>, Takahiro Seki<sup>1</sup>, Ayumu Konno<sup>2</sup>, Hirokazu Hirai<sup>2</sup>, Yuki Kurauchi<sup>1</sup>, Akinori Hisatsune<sup>3,4</sup>, Hiroshi Katsuki<sup>1</sup>  
<sup>1</sup>Dept. Chemico-Pharmacol. Sci., Grad Sch. Pharm. Sci., Kumamoto Univ., <sup>2</sup>Dept. Neurophysiol. Neural repair, Gunma Univ. Grad. Sch. Med., <sup>3</sup>Priority Organization for Innovation and Excellence, Kumamoto Univ., <sup>4</sup>Program for Leading Grad. Sch. HIGO Program, Kumamoto Univ.
- 2P-335**      **A test battery to assess depression-like behaviors in common marmosets**  
Hajime Yamanaka<sup>1</sup>, Hidetoshi Ishibashi<sup>2</sup>, Masahiko Takada<sup>1</sup>, Katsuki Nakamura<sup>3</sup>  
<sup>1</sup>Sys Neurosci Sect, Primate Res Inst, Kyoto Univ., Inuyama, Japan, <sup>2</sup>Pre-clinical Research Center, Tokyo Medical University, Tokyo, Japan, <sup>3</sup>Cognitive Neurosci Sect, Primate Res Inst, Kyoto Univ., Inuyama, Japan
- 2P-336**      **Consecutive ten-days of psychosocial stress exposure using Resident/Intruder paradigm causes the reduction of dorsal hippocampal neurogenesis, leads to the increase the anxiety but not depression**  
Masayoshi Mori, Mori Masayoshi, Terasaki Fumie, Mariko Tsuchihashi, Harada Hiroyoshi, Murata Yusuke, Ohe Kenji, Enjoji Munechika  
Dept Pharmacotherapeutics, Univ of Fukuoka, Fukuoka, Japan
- 2P-337**      **Ketamine ameliorates depression-like symptoms induced by low-frequency repetitive transcranial magnetic stimulation to the medial frontal cortex in monkeys**  
Shinya Nakamura, Takayuki Hosokawa, Toshio Iijima, Ken-Ichiro Tsutsui  
Lab Sys Neurosci, Tohoku Univ, Sendai, Japan
- 2P-338**      **Short-term ketamine administration increases the adult neurogenesis in the ventral hippocampus of mouse models for depression**  
Jun Yamada, Shozo Jinno  
Dept Anat & Neurosci, Grad Sch of Med Sci, Kyushu Univ, Fukuoka
- 2P-339**      **Resting-state functional connectivity MRI classification of major depressive disorder in multi-site data**  
Tsunehiko Takamura<sup>1</sup>, Tatsuhiko Nakamura<sup>1</sup>, Kenji Yoshinaga<sup>1,2</sup>, Yousuke Ogata<sup>3</sup>, Norio Ozaki<sup>4</sup>, Kiyoto Kasai<sup>6</sup>, Ryota Hashimoto<sup>5</sup>, Takashi Hanakawa<sup>1</sup>  
<sup>1</sup>National Center of Neurology and Psychiatry, Kodaira, Japan, <sup>2</sup>Kyoto Univ, Kyoto, <sup>3</sup>Tokyo Institute of Technology, <sup>4</sup>Nagoya Univ, Nagoya, <sup>5</sup>Osaka University, <sup>6</sup>The University of Tokyo Graduate School of Medicine, Tokyo, JAPAN

- 2P-340**      **Reduced plasma orexin-A levels in patients with schizophrenia, major depressive disorder and bipolar disorder**  
Shoko Tsuchimine<sup>1</sup>, Hattori Kotaro<sup>1</sup>, Ota Miho<sup>1</sup>, Hidese Shinsuke<sup>1</sup>, Teraishi Toshiya<sup>1</sup>, Sasayama Daimei<sup>1</sup>, Hori Hiroaki<sup>1</sup>, Noda Takamasa<sup>2</sup>, Yoshida Sumiko<sup>2</sup>, Yoshida Fuyuko<sup>1</sup>, Kunugi Hiroshi<sup>1</sup>  
<sup>1</sup>Department of Mental Disorder Research, National Institute of Neuroscience, National Center of Neurology and Psychiatry, <sup>2</sup>Department of Psychiatry, National Center Hospital, National Center of Neurology and Psychiatry
- 2P-341**      **Alterations in depression-like behavior in the junctional adhesion molecule B knockout mice.**  
Shuichi Chiba<sup>1</sup>, Shoko Tsuchimine<sup>1</sup>, Hitomi Suzuki<sup>1</sup>, Kazunori O'hashi<sup>1</sup>, Mayumi Kando<sup>1</sup>, Masazumi Nishimoto<sup>2</sup>, Akihiko Okuda<sup>2</sup>, Kazuhiro Sohya<sup>1</sup>, Hiroshi Kunugi<sup>1</sup>  
<sup>1</sup>Dep. Mental Disorder Res., National Center of Neurology and Psychiatry, National Institute of Neuroscience, <sup>2</sup>Res Cen for Genomic Medicine, Saitama Med Univ, Saitama, Japan
- 2P-342**      **Effect of TSPO-targeting compound ONO-2952 on the mouse behaviors under the chronic social defeat stress**  
Kanao Nozaki<sup>1</sup>, Hikaru Ito<sup>1</sup>, Masahiro Ohgidani<sup>2</sup>, Takahiro Kato<sup>2</sup>, Takashi Kitajima<sup>3</sup>, Seishi Katsumata<sup>3</sup>, Yosuke Yamawaki<sup>4</sup>, Shigeto Yamawaki<sup>5</sup>, Hidenori Aizawa<sup>1</sup>  
<sup>1</sup>Dept Neurobiol, Grad Sch Biomed Sci, Hiroshima Univ, Hiroshima, Japan, <sup>2</sup>Dept Neuropsychiat, Sch Med Sci, Kyushu Univ, Fukuoka, Japan, <sup>3</sup>Discovery Research Laboratories, ONO Pharmaceutical Co., Ltd, Osaka, Japan, <sup>4</sup>Dept Cell & Mol Pharmacol, Sch Biomed Sci, Hiroshima Univ, Hiroshima, Japan, <sup>5</sup>Dept Psychiatry and Neurosciences, Hiroshima Univ, Hiroshima, Japan
- 2P-343**      **Decreased brain pH in patients with depression and in a social defeat mouse model**  
Hideo Hagihara<sup>1</sup>, Hirofuka Shoji<sup>1</sup>, Hikari Otabi<sup>2,3</sup>, Atsushi Toyoda<sup>2,3,4</sup>, Tsuyoshi Miyakawa<sup>1</sup>  
<sup>1</sup>Div of Sys Med Sci, ICMS, Fujita Hlth Univ, Aichi, Japan, <sup>2</sup>Col of Agri, Ibaraki Univ, Ibaraki, Japan, <sup>3</sup>Unit Grad Sch of Agri Sci, Tokyo Univ of Agri and Tech, Tokyo, Japan, <sup>4</sup>Ibaraki Univ Coop between Agri and Med Sci (IUCAM), Ibaraki, Japan

## Others

- 2P-344**      **Depolarized subicular microcircuits mediate generalized seizure in temporal lobe epilepsy**  
 Yi Wang  
Univ of Zhejiang
- 2P-345**      **Molecular specific visualization of abnormal lipid accumulation in tissues from Fabry disease patients using Raman spectroscopic marker of globotriaosylceramide**  
Yu Nagashima<sup>1,2</sup>, Atsushi Iwata<sup>1</sup>, Kosuke Yoshioka<sup>3</sup>, Junko Omachi<sup>2</sup>, Jun Shimizu<sup>1</sup>, Tatsushi Toda<sup>1</sup>, Junji Yumoto<sup>2</sup>, Makoto Kuwata-Gonokami<sup>2</sup>  
<sup>1</sup>Dept Neurol, Univ of Tokyo Hospital, Tokyo, Japan, <sup>2</sup>Sch of Science, Univ of Tokyo, Japan, <sup>3</sup>Sch of Engineering, Univ of Tokyo, Japan
- 2P-346**      **Agmatine increases brain histamine levels and attenuates methamphetamine-induced hyperlocomotion and stereotyped behaviors in mice**  
Junichi Kitanaka<sup>1</sup>, Nobue Kitanaka<sup>1</sup>, Koh-Ichi Tanaka<sup>2</sup>, Kazuo Tomita<sup>2,3</sup>, Takao Tsukahara<sup>3</sup>, Tomoaki Sato<sup>3</sup>, Nobuyoshi Nishiyama<sup>2</sup>, Motohiko Takemura<sup>1</sup>  
<sup>1</sup>Dept Pharmacol, Hyogo Col Med, Nishinomiya, Japan, <sup>2</sup>Div Pharmacol, Dept Pharm, Sch Pharm, Hyogo Univ Health Sci, Kobe, Japan, <sup>3</sup>Dept Applied Pharmacol, Grad Sch Med & Dent Sci, Kagoshima Univ, Kagoshima, Japan

- 2P-347**      **Histamine H<sub>3</sub> receptor inverse agonists alleviate methamphetamine-induced behavioral abnormalities in mice**  
Nobue Kitanaka<sup>1</sup>, Junichi Kitanaka<sup>1</sup>, Yukie Amatsu<sup>1</sup>, Rena Ozawa<sup>1</sup>, Miho Sato<sup>1</sup>, Kotaku Hashimoto<sup>1</sup>, Erina Hisatomi<sup>1</sup>, Eri Kitao<sup>1</sup>, Mari Mimura<sup>1</sup>, Miyu Nakamura<sup>1</sup>, Kenta Tagami<sup>1</sup>, Koh-Ichi Tanaka<sup>2</sup>, Kazuo Tomita<sup>2,3</sup>, Takao Tsukahara<sup>3</sup>, Tomoaki Sato<sup>3</sup>, Nobuyoshi Nishiyama<sup>2</sup>, Motohiko Takemura<sup>1</sup>  
<sup>1</sup>Dept Pharmacol, Hyogo Col Med, Nishinomiya, Japan, <sup>2</sup>Div Pharmacol, Dept Pharm, Sch Pharm, Hyogo Univ Health Sci, Kobe, Japan, <sup>3</sup>Dept Applied Pharmacol, Grad Sch Med & Dent Sci, Kagoshima Univ, Kagoshima, Japan
- 2P-348**      **Maternal deficit of one carbon metabolism alters behavioral traits and gene expression in brain of the progenies**  
Tamio Furuse<sup>1</sup>, Takashi Kohda<sup>2</sup>, Ikuo Miura<sup>1</sup>, Tomoko Kushida<sup>1</sup>, Ikuko Yamada<sup>1</sup>, Kimio Kobayashi<sup>1</sup>, Fumitoshi Ishino<sup>2,3</sup>, Shigeharu Wakana<sup>1</sup>  
<sup>1</sup>Japan mouse clinic, RIKEN BRC, Tsukuba, Japan, <sup>2</sup>Dept. of Epigenetics, Tokyo Med. & Dent. Univ., Tokyo, Japan, <sup>3</sup>Institute of Biomedical Research and Innovation, Kobe, Japan
- 2P-349**      **Investigation of expression mechanism of polyphenol antioxidant activity through membrane vesicles**  
Mitsushi J Ikemoto<sup>1,2</sup>, Yukine Aihara<sup>3</sup>, Noriyuki Ishii<sup>1,4</sup>, Hideyuki Shigemori<sup>5</sup>  
<sup>1</sup>Biomedical Research Institute, AIST, Ibaraki, Japan, <sup>2</sup>Graduate School of Science, Toho Univ, Chiba, Japan, <sup>3</sup>Graduate School of Life and Environmental Sciences, Univ of Tsukuba, Ibaraki, Japan, <sup>4</sup>The United Graduate School of Agricultural Science, Gifu Univ, Gifu, Japan, <sup>5</sup>Faculty of Life and Environmental Sciences, Univ of Tsukuba, Ibaraki, Japan
- 2P-350**      **Enhancement of aquaporin-4 expression in mouse periaqueductal gray by methylmercury**  
Takahiko Namba<sup>1</sup>, Tatsuya Honda<sup>1</sup>, Megumi Yamamoto<sup>2</sup>, Yasuhiro Ishihara<sup>1</sup>, Takeshi Yamazaki<sup>1</sup>  
<sup>1</sup>Dept Integra Art & Sci, Hiroshima Univ, Hiroshima Japan, <sup>2</sup>National Institute for Minamata Disease, Kumamoto, Japan
- 2P-351**      **Effects of treadmill exercise on neuropathic pain and pain-related cellular reactions in the spinal dorsal horn and midbrain in rat sciatic nerve injury model**  
Megumi Sumizono<sup>1,2</sup>, Shotaro Otsuka<sup>1</sup>, Takuto Terashi<sup>1</sup>, Kazuki Nakanishi<sup>1,2</sup>, Koki Ueda<sup>1,2</sup>, Seiya Takada<sup>1,2</sup>, Kosei Ijiri<sup>2</sup>, Harutoshi Sakakima<sup>1</sup>  
<sup>1</sup>Course of Physical Therapy, School of Health Sciences, Faculty of Medicine, Kagoshima University, Kagoshima, Japan, <sup>2</sup>Kirishima orthopedics, Kagoshima, Japan
- 2P-352**      **Role of granzymes in the pathology of pediatric acute encephalopathy**  
Gaku Yamanaka, Ryou Takahashi, Yushuke Watanabe, Tomoko Takamatshu, Mika Takashita, Natsumi Morishita, Shinitirou Morichi, Yu Ishida, Shingo Oana, Yasuyo Kashiwagi, Hisashi Kawashima  
Dept Ped, Tokyo Medical University, Tokyo, Japan
- 2P-353**      **Whole brain analyses of age-related microstructural changes quantified using different diffusional magnetic resonance imaging methods**  
Miho Ota<sup>1</sup>, Sato Noriko<sup>2</sup>, Matsuda Hiroshi<sup>3</sup>, Kunugi Hiroshi<sup>1</sup>  
<sup>1</sup>Department of Mental Disorder Research, National Institute of Neuroscience, National Center of Neurology and Psychiatry (NCNP), <sup>2</sup>Department of Radiology, National Center of Neurology and Psychiatry, <sup>3</sup>Integrative Brain Imaging Center, National Center of Neurology and Psychiatry
- 2P-354**      **Effects of repetitive transcranial magnetic stimulation applied during amygdala kindling on electrophysiological properties and ionotropic glutamate and GABA currents of hippocampal CA1 pyramidal neurons in rats**  
Amir Shojaei<sup>1</sup>, Javad Mirnajafi-Zadeh<sup>1</sup>, Saeed Semnanian<sup>1</sup>, Mahyar Janahmadi<sup>2</sup>, Homeyra Moradi<sup>1</sup>  
<sup>1</sup>Physiology department, Faculty of medical sciences, Tarbiat Modares University, Tehran, Iran, <sup>2</sup>Physiology department, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran



- 2P-355**      **Diphenylarsinic acid-induced activation of MAP kinases in human cerebellar astrocytes**  
Takayuki Negishi, Shoto Sasaki, Shuya Wakasugi, Nobutaka Sumiyoshi, Takahiro Ishida, Rena Yamada, Syunko Kin, Yumiko Koiwa, Yuki Ohishi, Ayumi Takagi, Tomoka Shibata, Ai Kitabepu, Yuho Kondo, Maho Takano, Mai Nakajima, Kazunori Yukawa  
*Dept Physiol, Meijo University, Aichi, Japan*
- 2P-356**      **Effect of exercise together with disaccharide intake on autophagy in mice.**  
Hidemi Narita<sup>1,2</sup>, Kunikazu Tanji<sup>1</sup>, Yasuo Miki<sup>1</sup>, Fumiaki Mori<sup>1</sup>, Koichi Wakabayashi<sup>1</sup>  
<sup>1</sup>*Department of Neuropathology, Hirosaki University Graduate School of Medicine, Hirosaki, Japan, <sup>2</sup>Hirosaki University of Health and Welfare*
- 2P-357**      **Immunosuppressive Role of Sulfatide in the Pathogenesis of Multiple Sclerosis**  
Mio Hamatani<sup>1</sup>, Yuichiro Hashi<sup>1</sup>, Shinji Ashida<sup>2</sup>, Yoichiro Okada<sup>3</sup>, Chihiro Fujii<sup>2</sup>, Kazuyuki Kawamura<sup>4</sup>, Hirofumi Ochi<sup>5</sup>, Toshiki Mizuno<sup>2</sup>, Ryosuke Takahashi<sup>1</sup>, Takayuki Kondo<sup>3</sup>  
<sup>1</sup>*Dept Neurology, Kyoto Univ, Kyoto, <sup>2</sup>Dept Neurol, Kyoto Pref Univ Med, Kyoto, Japan, <sup>3</sup>Department of Neurology, Kansai Medical University Medical Centre, Osaka, Japan, <sup>4</sup>Department of Neurology, National Hospital Organization Minami Kyoto Hospital, Kyoto, Japan, <sup>5</sup>Department of Neurology and Geriatric Medicine, Ehime University Graduate School of Medicine, Toon, Japan*
- 2P-358**      **ODF-based automatic fiber clustering for anatomically constrained reconstructed whole-brain fibers**  
Shiho Okuhata<sup>1</sup>, Ryusuke Nakai<sup>2</sup>, Tetsuo Kobayashi<sup>1</sup>  
<sup>1</sup>*Graduate School of Engineering, Kyoto University, Kyoto, Japan, <sup>2</sup>Kokoro Res Ctr, Kyoto Univ, Kyoto*
- 2P-359**      **Influence of formaldehyde gas exposure to reflexive eye movements in mice**  
Akira Katoh<sup>1</sup>, Shun-Ichi Sakai<sup>2</sup>, Masaki Asobe<sup>2</sup>, Takehiro Tachizaki<sup>3</sup>, Kou Sakabe<sup>5</sup>, Minoru Kimura<sup>4</sup>  
<sup>1</sup>*Dept Physiol, Tokai Univ Sch of Med, Kanagawa, Japan, <sup>2</sup>Dept Electrical and Electronics Engineering, Tokai Univ, Kanagawa, Japan, <sup>3</sup>Dept Optical and Imaging Science and Technology, Tokai Univ, Kanagawa, Japan, <sup>4</sup>Dept Mol Life Sci, Tokai Univ Sch of Med, Kanagawa, Japan, <sup>5</sup>Dept Anatomy and Cellular Biology, Tokai Univ Sch Med, Kanagawa, Japan*

## Learning Theory

- 2P-360**      **Deep generative model for learning to disentangle object shape and transformation**  
Haruo Hosoya  
*ATR, Kyoto, Japan*
- 2P-361**      **Simulation analysis for the contribution of Muscle Synergy to Robust Motion Control**  
Kyuengbo Min<sup>1</sup>, Masami Iwamoto<sup>2</sup>, Shinji Kakei<sup>1</sup>  
<sup>1</sup>*Tokyo Metropolitan Institute of Medical Science, <sup>2</sup>Toyota Central R&D LABs., INC.*
- 2P-362**      **Efficient search with Levy flights emerges from stochastic optimization**  
Lukasz Kusmierz, Alireza Goudarzi, Taro Toyoizumi  
*Laboratory for Neural Computation and Adaptation; RIKEN Brain Science Institute*

## Neural Network Modeling and Artificial Intelligence

- 2P-363**      **Understanding face-processing in primate using CNN**  
Rajani Raman, Haruo Hosoya  
*Department of Dynamic Brain Imaging, ATR, Kyoto, Japan*

- 2P-364**      **A neural circuit model of pattern classification with dendritic activities**  
Kento Suzuki<sup>1,2</sup>, Tatsuya Haga<sup>2</sup>, Tomoki Fukai<sup>2</sup>  
<sup>1</sup>Dept Complexity Science and Engineering, Univ of Tokyo, Tokyo, <sup>2</sup>Neural Circuit Theory, Brain Science Inst., RIKEN, Saitama
- 2P-365**      **Chunking information streams by dendritic minimization of surprise signals**  
Toshitake Asabuki<sup>1,2</sup>, Tomoki Fukai<sup>1,2</sup>  
<sup>1</sup>Dept Comp Sci Eng, Univ Tokyo, Kashiwa, Japan, <sup>2</sup>RIKEN Brain Science Institute, Wako
- 2P-366**      **Scan Path Modeling Using Marked Point Processes**  
Ryohei Shibue, Makoto Yoneya  
Human and Information Science Laboratory, NTT Communication Science Laboratories, Kanagawa, Japan
- 2P-367**      **Rhythm-based EEG-data assimilation for the resting human brain**  
Takumi Sase, Keiichi Kitajo  
Rhythm-based Brain Information Processing Unit, RIKEN CBS-TOYOTA Collaboration Center, RIKEN Center for Brain Science
- 2P-368**      **A connectivity mapping of marmoset brain by an established computational image processing pipeline**  
Meng Kuan Lin<sup>1</sup>, Yeonsook Shin Takahashi<sup>1</sup>, Mitsutoshi Hanada<sup>1</sup>, Jaimi Nagashima<sup>1</sup>, Bingxing Huo<sup>1</sup>, Alexander S. Tolpygo<sup>2</sup>, Brian Lee<sup>3</sup>, Michael Miller<sup>3</sup>, Marcello G.P. Rosa<sup>4</sup>, Hideyuki Okano<sup>1,5</sup>, Partha P. Mitra<sup>1,2</sup>  
<sup>1</sup>Laboratory for Marmoset Neural Architecture, RIKEN Brain Science Institute, Japan., <sup>2</sup>Cold Spring Harbor Laboratory, Cold Spring Harbor, United States., <sup>3</sup>Center for Imaging Science, Johns Hopkins University, United States., <sup>4</sup>Department of Physiology and Biomedicine Discovery Institute, Monash University, Australia., <sup>5</sup>Department of Physiology, Keio University School of Medicine, Japan.
- 2P-369**      **Representation of amplitude modulation similar to the auditory nervous system in a deep neural network: analysis by single unit recording**  
Takuya Koumura, Hiroki Terashima, Shigeto Furukawa  
NTT Communication Science Laboratories
- 2P-370**      **Spontaneous and stimulus-induced coherent states of dynamically balanced neuronal networks**  
Takashi Hayakawa<sup>1,2</sup>, Tomoki Fukai<sup>1</sup>  
<sup>1</sup>RIKEN CBS, Saitama, Japan, <sup>2</sup>Div Physics, Sch Med, Nihon Univ, Tokyo, Japan
- 2P-371**      **Conversion from sensation to perception reduces computational cost, as an application connecting neuroscience and artificial intelligence.**  
Masahiro Yamamoto  
Corporate R & D Center, Toshiba Co., Japan
- 2P-372**      **Hyper-acuity Bayesian algorithms for spike estimation in two-photon recordings with low temporal resolution**  
Huu Thien Hoang, Masa-Aki Sato, Mitsuo Kawato, Keisuke Toyama  
Advanced Telecommunications Research Institute International



- 2P-373 Sparse estimation of spatiotemporal receptive fields via Fourier Lasso**  
Yunosuke Azuma<sup>1</sup>, Kota Sasaki<sup>1,2</sup>, Hirotaka Sakamoto<sup>3</sup>, Yoshihiro Nagano<sup>3</sup>, Yonghao Yue<sup>3</sup>, Masato Okada<sup>3,4</sup>, Izumi Ohzawa<sup>1,2</sup>  
<sup>1</sup>Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan, <sup>2</sup>Center for Information and Neural Networks(CiNet), NICT, Osaka, Japan, <sup>3</sup>Department of Complexity Science and Engineering, Graduate School of Frontier Sciences, Tokyo University, Tokyo, Japan, <sup>4</sup>Brain Science Institute, RIKEN, Saitama
- 2P-374 A framework for effective connectivity analysis for voltage sensitive dye imaging data: dynamic causal modeling for voltage sensitive dye imaging (VSDI-DCM)**  
Jiyoung Kang<sup>1</sup>, Kyesam Jung<sup>3</sup>, Hae-Jeong Park<sup>1,2,3,4</sup>  
<sup>1</sup>System Science Center for Brain and Cognition, Yonsei Univ, Korea, <sup>2</sup>BK21 PLUS Project for Medical Science, Seoul, Korea, <sup>3</sup>Dept Nuc Med, Dept Rad, Dept Psych, Severance Hosp, Yonsei Univ Col Med, Seoul, Korea, <sup>4</sup>Dept Cog Sci, Yonsei Univ, Seoul, Korea
- 2P-375 Complementary nature of MEG and EEG revealed by MEG and EEG simultaneous source imaging and topographic reconstruction analysis**  
Okito Yamashita<sup>1</sup>, Yusuke Fujiwara<sup>1</sup>, Yusuke Takeda<sup>1,2</sup>, Nobuo Hiroe<sup>1</sup>, Masa-Aki Sato<sup>1</sup>  
<sup>1</sup>ATR Neural Information Analysis Laboratories, <sup>2</sup>RIKEN AIP
- 2P-376 Correlation between structure and function of neural network of *Caenorhabditis elegans***  
Kazumi Sakata, Tokumitsu Wakabayashi, Tarou Ogurusu  
Dept Chemistry and Bioengineering, Faculty of Engineering, Iwate University

## Brain-Machine Interface

- 2P-377 Classification of motor imagery EEG by sparse modeling**  
Azumi Ohno<sup>1</sup>, Hideo Mukai<sup>1,2</sup>  
<sup>1</sup>Comp Sci Prog, Grad Sch Sci & Tech, Meiji Univ, Kanagawa, Japan, <sup>2</sup>Dept Comp Sci, Sch Sci & Tech, Meiji Univ, Kanagawa, Japan
- 2P-378 Development of Flexible Neural Electrodes by Inkjet-Printing Process and Their Application for Optogenetics**  
Nana Kokubo<sup>1</sup>, Kento Yamagishi<sup>1</sup>, Shinji Takeoka<sup>1</sup>, Hiroyuki Ohta<sup>2</sup>, Toshinori Fujie<sup>3,4</sup>  
<sup>1</sup>Sch. Adv. Sci. Eng., Waseda Univ, Tokyo, Japan, <sup>2</sup>Dept Physiol, National Defense Medical College, Saitama, Japan, <sup>3</sup>WIAS, Waseda Univ., Tokyo, <sup>4</sup>JST PRESTO
- 2P-379 Noninvasive measurement technique for dynamic brain signals by magnetic field penetrating the brain**  
Osamu Hiwaki  
Grad Sch Info Sci, Hiroshima City Univ, Hiroshima, Japan
- 2P-380 Operation of a SSVEP-based BMI in a patient who progressed to the completely locked-in state**  
Yoji Okahara<sup>1,2</sup>, Kouji Takano<sup>1</sup>, Masahiro Nagao<sup>3</sup>, Yasuo Iwadate<sup>2</sup>, Kenji Kansaku<sup>1,4</sup>  
<sup>1</sup>Sys Neurosci Sect, Dept of Rehab for Brain Func, Res Inst of NRCD, Tokorozawa, Japan, <sup>2</sup>Dept Neurol Surg, Chiba Univ Grad Sch Med, Chiba, Japan, <sup>3</sup>Dept Neurol, Tokyo Metropolitan Neurological Hospital, Tokyo, Japan, <sup>4</sup>Brain Sci Inspired Life Support Res Center, Univ of Electro-Communications, Tokyo, Japan

- 2P-381**      **Regression analysis of emotional intensity using electroencephalography**  
 Yasuhisa Maruyama<sup>1</sup>, Yousuke Ogata<sup>1,2</sup>, Hiroyuki Kambara<sup>1</sup>, Yasuharu Koike<sup>1,2</sup>, Natsue Yoshimura<sup>1,2,3,4</sup>  
<sup>1</sup>Institute of Innovative Research, Tokyo Institute of Technology, Japan, <sup>2</sup>National Center of Neurology and Psychiatry, Kodaira, Japan, <sup>3</sup>ATR, Japan, <sup>4</sup>PRESTO JST, Japan

## Neural Circuit Manipulation

- 2P-382**      **Optical inactivation of neurotransmitter receptors**  
 Kiwamu Takemoto, Takuya Takahashi  
 Dept. Physiol. Yokohama City Univ., Yokohama
- 2P-383**      **Near-infrared deep brain stimulation via upconversion nanoparticle-mediated optogenetics**  
 Linmeng He<sup>1,5</sup>, Shuo Chen<sup>1</sup>, Adam Zachary Weitemier<sup>1</sup>, Xiyu Wang<sup>1</sup>, Yanqiu Tao<sup>1</sup>, Arthur J. Y. Huang<sup>1</sup>, Yuki Hashimoto<sup>2</sup>, Masanobu Kano<sup>2</sup>, Hirohide Iwasaki<sup>3</sup>, Laxmi Kumar Parajuli<sup>3</sup>, Shigeo Okabe<sup>3</sup>, Iku Tsutsui-Kimura<sup>4</sup>, Kenji F. Tanaka<sup>4</sup>, Thomas J. McHugh<sup>1,5</sup>  
<sup>1</sup>Laboratory for Circuit and Behavioral Physiology, RIKEN Brain Science Institute, <sup>2</sup>Department of Neurophysiology, Graduate School of Medicine, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-0033, Japan, <sup>3</sup>Department of Cellular Neurobiology, Graduate School of Medicine, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-0033, Japan, <sup>4</sup>Department of Neuropsychiatry, Keio University School of Medicine, Tokyo 160-8582, Japan, <sup>5</sup>Department of Life Sciences, Graduate School of Arts and Sciences, The University of Tokyo, Tokyo, Japan.
- 2P-384**      **Effects of brain temperature on cortical evoked potentials**  
 Mizuho Gotoh<sup>1,2</sup>, Kazuaki Nagasaka<sup>1,2,3</sup>, Ichiro Takashima<sup>1,2</sup>, Shinya Yamamoto<sup>1</sup>  
<sup>1</sup>Human Informatics Research Institute, AIST, Ibaraki, Japan, <sup>2</sup>Graduate School of Comprehensive Human Sciences, University of Tsukuba, Ibaraki, Japan, <sup>3</sup>Research Fellow, JSPS, Tokyo, Japan
- 2P-385**      **Neuron-specific efficient gene transduction in the primate brain with modified AAV vectors.**  
 Kei Kimura<sup>1</sup>, Soshi Tanabe<sup>1</sup>, Maki Fujiwara<sup>1</sup>, Mayuko Nakano<sup>1</sup>, Yuji Nagai<sup>2</sup>, Takafumi Minamimoto<sup>2</sup>, Ken-Ichi Inoue<sup>1,3</sup>, Masahiko Takada<sup>1</sup>  
<sup>1</sup>Sys Neurosci Sect, Primate Res Inst, Kyoto Univ., Inuyama, Japan, <sup>2</sup>Dept. Func Brain Imaging Res, Natl Inst Radiological Sci., Chiba, Japan, <sup>3</sup>PREST, JST, Kawaguchi, Japan
- 2P-386**      **Lentiviral vectors pseudotyped with FuG-E and FuG-E2 glycoprotein suitable for retrograde gene transfer into neural networks involving cerebral cortical areas in nonhuman primates and rodents.**  
 Yukiko Otsuka<sup>1</sup>, Hitomi Tsuge<sup>1</sup>, Shiori Uezono<sup>1</sup>, Soshi Tanabe<sup>1</sup>, Maki Fujiwara<sup>1</sup>, Miki Miwa<sup>3</sup>, Shigeki Kato<sup>2</sup>, Katsuki Nakamura<sup>3</sup>, Kazuto Kobayashi<sup>2</sup>, Ken-Ichi Inoue<sup>1,4</sup>, Masahiko Takada<sup>1</sup>  
<sup>1</sup>Sys Neurosci Sect, Primate Res Inst, Kyoto Univ., Inuyama, Japan, <sup>2</sup>Dept. Mol. Genet, Fukushima Med. Univ., <sup>3</sup>Cognitive Neurosci Sect, Primate Res Inst, Kyoto Univ., Inuyama, Japan, <sup>4</sup>PRESTO, JST, Kawaguchi, Japan
- 2P-387**      **Using PET imaging to monitor chemogenetic manipulation of nigrostriatal dopamine system in common marmoset**  
 Koki Mimura<sup>1</sup>, Yuji Nagai<sup>1</sup>, Ken-Ichi Inoue<sup>2</sup>, Tetsuya Suhara<sup>1</sup>, Masahiko Takada<sup>2</sup>, Takafumi Minamimoto<sup>1</sup>  
<sup>1</sup>National Inst. of Radiological Sci., QST, Chiba, Japan, <sup>2</sup>Primate Research Institute, Kyoto University, Inuyama, Japan

## Translational and Applied Neuroscience

- 2P-388**      **The Japan Monkey Centre Primates Brain Imaging Repository for comparative neuroscience: An archive of digital records including endangered species**  
 Tomoko Sakai<sup>1,2,3,4</sup>, Junichi Hata<sup>2,3,5</sup>, Hiroki Ohta<sup>3</sup>, Yuta Shintaku<sup>6,7</sup>, Naoto Kimura<sup>6</sup>, Yuki Ogawa<sup>3</sup>, Kazumi Sokabe<sup>8</sup>, Susumu Mori<sup>1,9</sup>, Hirotaka J Okano<sup>3</sup>, Yuzuru Hamada<sup>10</sup>, Hideyuki Okano<sup>2,5</sup>, Kenichi Oishi<sup>1</sup>  
<sup>1</sup>Dept Radiology, The Johns Hopkins Univ, Baltimore, USA, <sup>2</sup>Dept Physiology, Keio Univ, Tokyo, Japan, <sup>3</sup>Dept Physiology, Keio Univ, Tokyo, Japan, <sup>4</sup>JSPS, Tokyo, Japan, <sup>5</sup>RIKEN BSI, Lab for Marmoset Neural Architecture, Wako, Japan, <sup>6</sup>Japan Monkey Centre, Inuyama, Japan, <sup>7</sup>Wildlife Research Center, Kyoto Univ, Kyoto, Japan, <sup>8</sup>Fac Health Sciences, Tokyo Metropolitan Univ,, <sup>9</sup>F.M. Kirby Research Center for Functional Brain Imaging, Kenney Krieger Inst, Baltimore, USA, <sup>10</sup>Primate Research Inst, Kyoto University, Inuyama, Japan

## Others


- 2P-389**      **Using transcranial direct current stimulation to examine the neural mechanisms of reactive and proactive aggressive behavior**  
 Neil G Muggleton<sup>1</sup>, Chiao-Yun Chen<sup>2</sup>  
<sup>1</sup>National Central University, <sup>2</sup>Department and Graduate Institute of Criminology, National Chung Cheng University, Chiayi, Taiwan
- 2P-390**      **Neural substrates of self- and external-preoccupation: A voxel-based morphometry**  
 Shigeyuki Ikeda<sup>1</sup>, Hikaru Takeuchi<sup>2</sup>, Yasuyuki Taki<sup>2,3,4</sup>, Rui Nouchi<sup>5,6</sup>, Ryoichi Yokoyama<sup>7</sup>, Seishu Nakagawa<sup>7</sup>, Atsushi Sekiguchi<sup>3,7,8</sup>, Sugiko Hanawa<sup>7</sup>, Tsuyoshi Araki<sup>6</sup>, Kohei Sakaki<sup>6</sup>, Takayuki Nozawa<sup>1</sup>, Susumu Yokota<sup>2</sup>, Daniele Magistro<sup>7</sup>, Ryuta Kawashima<sup>1,2,6,7</sup>  
<sup>1</sup>Department of Ubiquitous Sensing, Institute of Development, Aging and Cancer, Tohoku University, Sendai, Japan, <sup>2</sup>Division of Developmental Cognitive Neuroscience, Institute of Development, Aging and Cancer, Tohoku University, Sendai, Japan, <sup>3</sup>Division of Medical Neuroimaging Analysis, Department of Community Medical Supports, Tohoku Medical Megabank Organization, Tohoku University, Sendai, Japan, <sup>4</sup>Department of Radiology and Nuclear Medicine, Institute of Development, Aging and Cancer, Tohoku University, Sendai, Japan, <sup>5</sup>Smart Ageing International Research Center, Institute of Development, Aging and Cancer, Tohoku University, Sendai, Japan, <sup>6</sup>Department of Advanced Brain Science, Institute of Development, Aging and Cancer, Tohoku University, Sendai, Japan, <sup>7</sup>Department of Functional Brain Imaging, Institute of Development, Aging and Cancer, Tohoku University, Sendai, Japan, <sup>8</sup>Department of Psychosomatic Research, National Institute of Mental Health, National Center of Neurology and Psychiatry, Tokyo, Japan
- 2P-391**      **Caesarean versus Vaginal Delivery: different outcome of respiratory rhythm generation**  
 Keiko Ikeda<sup>1,2</sup>, Hiroshi Onimaru<sup>3</sup>, Kiyoshi Kawakami<sup>2</sup>  
<sup>1</sup>Dept Physiol, Intl Univ Health Welfare, Sch Med, Narita, Japan, <sup>2</sup>Div Biol, Jichi Med Univ, Tochigi, Japan, <sup>3</sup>Dept Physiol, Showa Univ, Sch Med, Tokyo, Japan

## Poster Session

Day 3 - July 28

## Neurotransmitters and Signaling Molecules

- 3P-001**      **Low-level inhibition of GABA<sub>A</sub> receptor and motor exercise modulate BDNF expression in the motor related cortex**  
 Takahiro Inoue<sup>1</sup>, Shuta Ninuma<sup>2</sup>, Masataka Hayashi<sup>1</sup>, Akane Okuda<sup>2</sup>, Tadayoshi Asaka<sup>3</sup>, Hiroshi Maejima<sup>3</sup>  
<sup>1</sup>Graduate School of Health Sciences, Hokkaido University, Sapporo, Japan, <sup>2</sup>Department of Health Sciences, School of Medicine, Hokkaido University, Sapporo, Japan, <sup>3</sup>Department of Rehabilitation Science, Faculty of Health Sciences, Hokkaido University, Sapporo, Japan
- 3P-002**      **Effects of orexin B and orexin A on spontaneous inhibitory transmission in adult rat spinal substantia gelatinosa neurons**  
 Chong Wang, Tsugumi Fujita, Nobuya Magori, Rika Suzuki, Fan Yang, Eiichi Kumamoto  
 Dept Physiol, Saga Univ, Saga, Japan
- 3P-003**      **The production and role of hydrogen sulfide and hydrogen polysulfides in mammalian cells**  
 Norihiro Shibuya<sup>1</sup>, Koike Shin<sup>2</sup>, Miyamoto Ryo<sup>1</sup>, Kimura Yuka<sup>1</sup>, Hanaoka Kenjiro<sup>3</sup>, Nagahara Noriyuki<sup>4</sup>, Urano Yasuteru<sup>3</sup>, Ogasawara Yuki<sup>2</sup>, Kimura Hideo<sup>1</sup>  
<sup>1</sup>Natl Inst Neurosci, NCNP, Tokyo, Japan, <sup>2</sup>Analyt Chem, Meiji Pharm Univ, Tokyo, Japan, <sup>3</sup>Grad Sch of Pharm Sci, Univ of Tokyo, Tokyo, Japan, <sup>4</sup>Isotope Res Center, Nippon Med Sch, Tokyo, Japan
- 3P-004**      **Serotonergic modulation on the inhibitory synaptic transmission in the lateral amygdala**  
 Ryo Yamamoto, Tokio Sugai, Nobuo Kato  
 Department of Physiology, Kanazawa Medical University, Ishikawa, Japan
- 3P-005**      **Peripheral regulatory mechanism of early-stage tongue cancer pain in rats**  
 Akihiko Furukawa<sup>1</sup>, Masamichi Shinoda<sup>2</sup>, Kuniya Honda<sup>2</sup>, Asako Kubo<sup>2</sup>, Ryuta Akasaka<sup>1</sup>, Yoshiyuki Yonehara<sup>1</sup>, Koichi Iwata<sup>2</sup>  
<sup>1</sup>Department of Clinical Medicine, Nihon University School of Dentistry, <sup>2</sup>Department of Physiology, Nihon University School of Dentistry
- 3P-006**      **Orexin facilitates GABAergic IPSCs by activation of postsynaptic PKC signaling cascade in the rat insular cortex**  
 Midori Usui<sup>1</sup>, Yoshiyuki Oi<sup>2</sup>, Masayuki Kobayashi<sup>1</sup>  
<sup>1</sup>Dept Pharmacol, Nihon Univ Sch Dent, Tokyo Japan, <sup>2</sup>Dept Anesthesiol, Nihon Univ Sch Dent, Tokyo Japan
- 3P-007**      **Glutamate decarboxylase 65-deficient rats exhibit decreased brain GABA content and premature lethality**  
 Toshikazu Kakizaki<sup>1</sup>, Masahiko Watanabe<sup>2</sup>, Yuchio Yanagawa<sup>1</sup>  
<sup>1</sup>Dept Genet & Behav Neurosci, Grad Sch Med, Gunma Univ, Maebashi, Japan, <sup>2</sup>Department of Anatomy, Hokkaido University, Graduate School of Medicine, Sapporo, Japan
- 3P-008**      **GABA refines circadian output rhythms in the mouse suprachiasmatic nucleus**  
 Daisuke Ono<sup>1</sup>, Ken-Ichi Honma<sup>2</sup>, Yuchio Yanagawa<sup>3</sup>, Sato Honma<sup>2</sup>  
<sup>1</sup>Dept of Neurosci II, RIEM, Nagoya Univ, Aichi, Japan, <sup>2</sup>Res & Educ Center Brain Sci, Hokkaido Univ, Grad Sch Med, Sapporo, Japan, <sup>3</sup>Dep of Genet & Behav Neurosci, Gunma Univ Grad Sch Med, Maebashi, Japan

- 3P-009**      **The localization and innervation of rBAT and tyrosine hydroxylase positive neuron in the nucleus tractus solitarii**  
Daiki Masukawa, Nakao Yuka, Goshima Yoshio  
*Department of Molecular Pharmacology, and Neurobiology, Graduate School of Medicine, Yokohama City University, Yokohama, Japan*
- 3P-010**      **Imaging mass spectrometry revealed the alteration of neurotransmission in Scrapper-knockout mouse brain**  
Fumihiro Eto<sup>1,2</sup>, Takeshi Matsuda<sup>1</sup>, Mitsutoshi Setou<sup>2,3</sup>, Ikuko Yao<sup>1,3</sup>  
*<sup>1</sup>Dept Optical imaging, Hamamatsu Univ Sch of Med, Hamamatsu, Japan, <sup>2</sup>Dept Cell and Molecular Anatomy, Hamamatsu Univ Sch of Med, Hamamatsu, Japan, <sup>3</sup>Intl Mass Imaging Ctr, Hamamatsu Univ Sch of Med, Hamamatsu, Japan*
- 3P-011**      **PTP&sigma drives excitatory presynaptic assembly via various extracellular and intracellular mechanisms**  
Sungwon Bae<sup>1</sup>, Ah Han Kyung<sup>1</sup>, Ji Seung Ko<sup>1,2</sup>, Tabuchi Katsuhiko<sup>3,5</sup>, Ji Won Um<sup>1</sup>, Jaewon Ko<sup>1,2,4</sup>  
*<sup>1</sup>Daegu Gyeongbuk Institute of science and technology, <sup>2</sup>College of Life Science and Biotechnology, Yonsei University, Seoul 03722, Korea, <sup>3</sup>Shinshu University School of Medicine, Matsumoto 390-8621, Japan, <sup>4</sup>Biomedical Omics Group, Korea Basic Science Institute, 162 Yeongodanjiro Ochang, Cheongju, Chungbuk 28119, Korea, <sup>5</sup>PRESTO, Japan Science and Technology Agency (JST), Kawaguchi 332-0012, Japan.*
- 3P-012**      **THETA OSCILLATIONS IN HIPPOCAMPAL FORMATION MAY DEPEND ON Ih CURRENT- AN IN VIVO AND IN VITRO APPROACH**  
Paulina Dominika Kazmierska<sup>1</sup>, Joanna Ewa Sowa<sup>2</sup>, Marcin Siwiec<sup>2</sup>, Renata Bocian<sup>1</sup>, Tomasz Kowalczyk<sup>1</sup>  
*<sup>1</sup>Department of Neurobiology, Faculty of Biology and Environmental Protection, University of Lodz, Poland, <sup>2</sup>Institute of Pharmacology, Polish Academy of Sciences, Department of Physiology, Krakow, Poland*
- 3P-013**      **Dopamine neuron activity governs cocaine potency at the dopamine transporter**  
 Zachary D Brodник, Rodrigo A Espana  
*Drexel University College of Medicine*

## Glial Mechanisms

- 3P-014**      **Prophylactic effects of valproate on epileptogenesis in audiogenic seizure-susceptible *Lgi1* mutant rats**  
Masato Kinboshi<sup>1,2,3</sup>, Kazuaki Sato<sup>1,3</sup>, Saki Shimizu<sup>1</sup>, Tadao Serikawa<sup>1</sup>, Hidefumi Ito<sup>2</sup>, Akio Ikeda<sup>3</sup>, Yukihiro Ohno<sup>1</sup>  
*<sup>1</sup>Lab Pharmacol, Osaka Univ of Pharmaceutical Sciences, Takatsuki, Japan, <sup>2</sup>Dept Neurol, Wakayama Med Univ, Wakayama, Japan, <sup>3</sup>Dept Epilepsy, Movement Disorders and Physiology, Kyoto Univ, Kyoto, Japan*
- 3P-015**      **TRPV4 activation induces significant ATP release in Müller glia; Inhibition of neuronal excitability by glial cells for vision**  
Shouta Sugio<sup>1</sup>, Hidetaka Matsumoto<sup>2</sup>, Yasuki Ishizaki<sup>1</sup>, Koji Shibasaki<sup>1</sup>  
*<sup>1</sup>Dept Mol Cell Neurobiol, Gunma Univ Grad Sch Medicine, Mebashi, Japan, <sup>2</sup>Dept Ophthal, Gunma Univ Grad Sch Medicine, Mebashi, Japan*

- 3P-016 Analysis of the relationship between astrocytic endfoot and blood vessel**  
Hideaki Kubotera<sup>1</sup>, Hiroko Ikeshima-Kataoka<sup>1</sup>, Anna Letizia Allegra Mascaro<sup>2,3</sup>, Pavone Francesco<sup>2</sup>, Takafumi Inoue<sup>1</sup>  
<sup>1</sup>Dept of Life Science and Medical Bioscience, Waseda Univ, Tokyo, Japan, <sup>2</sup>European Laboratory for Non-Linear Spectroscopy, University of Florence, Florence, Italy, <sup>3</sup>Neuroscience Institute, National Research Council, Pisa, Italy
- 3P-017 Mechanisms of sonic hedgehog induced calcium dynamics in the hippocampal astrocytes**  
Chihiro Adachi<sup>1</sup>, Arai Satoshi<sup>2</sup>, Kitaguchi Tetsuya<sup>2</sup>, Takeda Sen<sup>3</sup>, Inoue Takafumi<sup>1</sup>  
<sup>1</sup>Dept Med Sci & Med Biosci, Univ Waseda, Tokyo, Japan, <sup>2</sup>WABIOS, Singapore, Republic of Singapore, <sup>3</sup>Dept. Anat. Cell Biol., Univ. Yamanashi, Yamanashi, Japan
- 3P-018 Glial marker immunopositive cells in the rat mesencephalic trigeminal nucleus**  
Akira Kawata, Shingo Maeda, Tomonori Inoue, Takao Tsuboi, Kouta Watanabe, Tomohiro Kato, Naomi Miyagi, Kazuyoshi Higashi, Osamu Takahashi  
Dept Histol, Embryol, and Neuroanato, Kanagawa Dent Univ, Yokosuka, Japan
- 3P-019 The morphological characteristics of microglia in the developing mouse superior colliculus**  
Akihiko Ueki<sup>1</sup>, Madoka Narushima<sup>1,2</sup>, Junichi Nabekura<sup>1,2</sup>  
<sup>1</sup>Division of Homeostatic Development, National Institute for Physiological Sciences, <sup>2</sup>Dept Physiol, SOKENDAI, Okazaki, Japan
- 3P-020 Astrocytic control of neural activity and behavior by optogenetic Gq-coupled receptor activation**  
Youichi Iwai, Ozawa Katsuya, Yahagi Kazuko, Hirase Hajime  
RIKEN, Laboratory for Neuron-Glia Circuitry
- 3P-021 Two distinct time courses of noradrenaline-activated GPCR signaling in cortical astrocytes visualized by in vivo two-photon imaging**  
Yuki Oe<sup>1</sup>, Thomas J McHugh<sup>1</sup>, Hajime Hirase<sup>1,2</sup>  
<sup>1</sup>Brain Science Institute, RIKEN, <sup>2</sup>Saitama University Brain Science Institute, Saitama
- 3P-022 Neuronal brain-derived neurotrophic factor serves as a don't-eat-me signal for microglia in the hippocampus**  
Junya Onodera<sup>1</sup>, Hidetaka Nagata<sup>2</sup>, Ryuta Koyama<sup>1</sup>, Yuji Ikegaya<sup>1</sup>  
<sup>1</sup>Laboratory of Chemical Pharmacology, Graduate School of Pharmaceutical Sciences, The University of Tokyo, <sup>2</sup>Platform Technology Research Unit, Sumitomo Dainippon Pharma Co., Ltd.
- 3P-023 Astrocytic cAMP bidirectionally affects memory**  
Zhiwen Zhou<sup>1</sup>, Junya Onodera<sup>1</sup>, Megumi Andoh<sup>1</sup>, Toshimitsu Hiragi<sup>1</sup>, Kenji F Tanaka<sup>2</sup>, Ryuta Koyama<sup>1</sup>, Yuji Ikegaya<sup>1</sup>  
<sup>1</sup>Lab Chem Pharmacol, Grad Sch Pharm Sci, Univ of Tokyo, Tokyo, <sup>2</sup>Dept Neuropsychiatry, Sch Medicine, Keio Univ
- 3P-024 Age-dependent regulatory function of microglial voltage-gated proton channels**  
Takafumi Kawai<sup>1</sup>, Keizo Takao<sup>2,3</sup>, Kenji Sakimura<sup>4</sup>, Tsuyoshi Miyakawa<sup>3,5</sup>, Yasushi Okamura<sup>1</sup>  
<sup>1</sup>Osaka University Graduate School of Medicine, Suita, Japan, <sup>2</sup>Div of Mol Gen Res, Life Sci Res Ctr, Univ of Toyama, Toyama, <sup>3</sup>NIPS, Aichi, Japan., <sup>4</sup>Niigata Univ. BRI, Niigata, <sup>5</sup>Division of Systems Medical Science, Fujita Health University
- 3P-025 Phenotypic and quantitative analysis of 5D4-keratan sulfate expressing microglia in the hippocampus of mouse models for temporal lobe epilepsy**  
Tomohiro Ohgomori, Shozo Jinno  
Dept Anat & Neurosci, Grad Sch Med Sci, Kyushu Univ, Fukuoka

- 3P-026 Mechanism for neuronal differentiation induction with cultured glia and its medium**  
 Chihiro Nishikawa<sup>1</sup>, Kaoru Sato<sup>4</sup>, Yuko Sekino<sup>3</sup>, Naohiro Hozumi<sup>2</sup>, Yasunari Kanda<sup>4</sup>, Sachiko Yoshida<sup>1</sup>  
<sup>1</sup>Dept Environ Life Sci, Toyohashi Univ of Technol, Toyohashi, Japan, <sup>2</sup>Dept Electronic Info Eng, Toyohashi Univ of Technol, Toyohashi, Japan, <sup>3</sup>Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, <sup>4</sup>Div Pharmacology, National Institute of Health Sciences, Tokyo, Japan
- 3P-027 Immunohistochemical analysis of the enhancement reaction of microglia in the white matter of the hypomyelinated mice**  
 Keisuke Ikarashi<sup>1</sup>, Reiko Meguro<sup>1</sup>, Hirohide Takebayashi<sup>2</sup>, Nozomu Yoshioka<sup>2,3</sup>  
<sup>1</sup>Department of Medical Technology, Graduate School of Health Sciences, Niigata University, Niigata, Japan, <sup>2</sup>Division of Neurobiology & Anatomy, Graduate School of Medical & Dental Sciences, Niigata University, Niigata, Japan, <sup>3</sup>Transdisciplinary Research Program, Niigata University, Niigata, Japan
- 3P-028 Transcranial direct current stimulation alters microglial morphology in mice**  
 Tsuneko Mishima, Terumi Nagai, Kazuko Yahagi, Hajime Hirase  
 RIKEN BSI, Saitama Japan

## Reproduction

- 3P-029 Neural basis driving speciation among Rhinogobius species.**  
 Masafumi Kawaguchi<sup>1</sup>, Naoyuki Yamamoto<sup>2</sup>, Koji Matsumoto<sup>3</sup>, Kei Nakayama<sup>4</sup>, Hanako Hagio<sup>2</sup>, Junya Shibata<sup>5</sup>, Atsushi Sogabe<sup>6</sup>, Ryota Kawanishi<sup>7</sup>, Hironori Izumi<sup>8</sup>, Yasuhisa Akazome<sup>9</sup>, Fumikazu Suto<sup>10</sup>, Yasunori Murakami<sup>11</sup>, Hiroyuki Ichijo<sup>1</sup>  
<sup>1</sup>Dept Anat, Univ of Toyama, Toyama, Japan, <sup>2</sup>Grad Sch Bioagr Sci, Nagoya Univ, Nagoya, Japan, <sup>3</sup>Ehime Univ Senior High School, Matsuyama, Japan, <sup>4</sup>CMES, Ehime Univ, Matsuyama, Japan, <sup>5</sup>Env Res Man Cent, Hiroshima Univ, Higashi-Hiroshima, Japan, <sup>6</sup>Fac Agr Life Sci, Hirosaki Univ, Hirosaki, Japan, <sup>7</sup>Fac Env Earth Sci, Hokkaido Univ, Sapporo, Japan, <sup>8</sup>Life Sci Res Cent, Univ of Toyama, Toyama, Japan, <sup>9</sup>Dept Anat, St. Marianna Univ Sch Med, Kawasaki, Japan, <sup>10</sup>Nat Inst Neurosci, NCNP, Kodaira, Japan, <sup>11</sup>Grad Sch Sci Eng, Ehime Univ, Matsuyama, Japan

## Mood and Anxiety

- 3P-030 Microstimulation of primate caudate nucleus induces an abnormal repetition of negative decisions predicted by beta oscillatory activity**  
 Ken-Ichi Amemori<sup>1</sup>, Satoko Amemori<sup>2</sup>, Daniel J Gibson<sup>2</sup>, Ann M Graybiel<sup>2</sup>  
<sup>1</sup>Systems Neurosci, Hakubi Center, Primate Res Inst, Kyoto Univ, Aichi, Japan, <sup>2</sup>McGovern Inst for Brain Res, MIT, Cambridge, USA
- 3P-031 Hypothalamic Urocortin3/Enkephalin Neurons Are Involved in Anxiety and Accompanying Defensive Behaviors Evoked by a Novel Object Stimulus and Sufficient to Induce Stereotypic/Repetitive Behavior Especially in a Home-cage.**  
 Noriko Horii, Nozomi Endo, Mayumi Nishi  
 Dept Anat Cell Biol, Nara Med Univ, Nara, Japan
- 3P-032 Adaptive anxious states and down-regulation of dopamine activity under amygdala activation in naive rats.**  
 Chien-Wen Lai<sup>1</sup>, Chun-Hui Chang<sup>1,2</sup>  
<sup>1</sup>Institute of Molecular Medicine, National Tsing Hua University, Hsinchu, Taiwan, <sup>2</sup>Institute of Systems Neuroscience, National Tsing Hua University, Hsinchu, Taiwan



- 3P-033**     **A novel 5HT<sub>3</sub> receptor-IGF1 mechanism distinct from SSRI-induced antidepressant effects**  
Makoto Kondo, Yoshihisa Koyama, Yukiko Nakamura, Shoichi Shimada  
*Dept Neuroscience and Cell Biology, Univ of Osaka, Osaka*
- 3P-034**     **Identification of neural substrates involved in " separation anxiety "**  
Kansai Fukumitsu, Misato Kaneko, Kumi Kuroda  
*RIKEN Brain Research Institute*
- 3P-035**     **Dynamic change of resting-state functional connectivity associated with stress**  
Maki Kitawaki<sup>1</sup>, Mauricio Delgado<sup>3</sup>, Masahiko Haruno<sup>2</sup>  
<sup>1</sup>Graduate School of Frontier Biosciences, Osaka University, Toyonaka, <sup>2</sup>Center for Information and Neural Networks, Osaka, Japan, <sup>3</sup>Dept of psychology, Rutgers Univ, NJ, USA
- 3P-036**     **Na<sup>+</sup>, K<sup>+</sup>-ATPase regulates the formation and maintenance of social behavior**  
Yuki Kurauchi<sup>1</sup>, Risako Tanaka<sup>1</sup>, Akinori Hisatsune<sup>2,3</sup>, Takahiro Seki<sup>1</sup>, Hiroshi Katsuki<sup>1</sup>  
<sup>1</sup>Dept. Chemico-Pharmacol. Sci., Grad. Sch. Pharm. Sci., Kumamoto Univ., Kumamoto, Japan, <sup>2</sup>Priority Organization for Innovation and Excellence, Kumamoto Univ., Kumamoto, Japan, <sup>3</sup>Program for Leading Grad. Sch. HIGO Program, Kumamoto Univ., Kumamoto, Japan
- 3P-037**     **Effects of activity control of neuropeptide Y neurons in the nucleus accumbens on anxiety-like behavior**  
Yoon Mi Oh<sup>1</sup>, Yoshihisa Watanabe<sup>2</sup>, Shunji Yamada<sup>1</sup>, Atsushi Tsujimura<sup>2</sup>, Masaki Tanaka<sup>1</sup>  
<sup>1</sup>Dept Anat and Neurobio, Kyoto Prefect Univ of Med, Kyoto, Japan, <sup>2</sup>Dept of Basic Geriatr, Kyoto Prefect Univ of Med, Kyoto, Japan
- 3P-038**     **Difference in sound features of ultrasonic vocalizations by neonatal rats separated from their mother in response to surrounding environment**  
Mitsuteru Nakamura<sup>1</sup>, Masaaki Tanichi<sup>2</sup>, Hiroyuki Toda<sup>2</sup>, Taku Saito<sup>2</sup>, Shunji Mitsuyoshi<sup>3</sup>, Shuji Shinohara<sup>3</sup>, Yasuhiro Omiya<sup>4</sup>, Masakazu Higuchi<sup>1</sup>, Kunio Shimizu<sup>5</sup>, Aihide Yoshino<sup>1</sup>, Shinichi Tokuno<sup>1</sup>  
<sup>1</sup>Dept Voice Analysis of Pathophysiology, Univ of Tokyo, Tokyo, Japan, <sup>2</sup>Dept Psychiatry, National Defense Medical College, Saitama, Japan, <sup>3</sup>Dept Bioeng, Univ of Tokyo, Tokyo, Japan, <sup>4</sup>PST Inc., Kanagawa, Japan, <sup>5</sup>National Defense Medical College Research Institute, Saitama, Japan
- 3P-039**     **How habits of reading relate to mindfulness and psychological status in university students: Paper- and internet-based reading**  
Hiromitsu Miyata<sup>1,2</sup>  
<sup>1</sup>Facul of Letters, Arts and Sciences, Waseda Univ, Tokyo, Japan, <sup>2</sup>Japan Institute of Lifelong Learning, Tokyo, Japan
- 3P-040**     **The effect of the mood change on the music-preference related electroencephalogram**  
Hirokazu Sadahisa, Yuya Tsuji, Kiyohisa Natsume  
*Kyushu Institute of Technology*
- 3P-041**     **Cocaine- and amphetamine-regulated transcript peptide; exploration of the possibility as a common biomarker for the symptoms in major depressive disorders and amphetamine withdrawal syndrome**  
Hyung Shin Yoon<sup>1,2</sup>, Jungwon Lee<sup>1</sup>, Kotaro Hattori<sup>2,3</sup>, Daimei Sasayama<sup>4</sup>, Miho Ota<sup>2</sup>, Hiroshi Kunugi<sup>2</sup>, Jeong-Hoon Kim<sup>1</sup>  
<sup>1</sup>Dept Physiology, Yonsei University College of Medicine, South Korea, <sup>2</sup>Department of Mental Disorder Research, National Institute of Neuroscience, National Center of Neurology and Psychiatry, <sup>3</sup>Translational Medical Center, National Center of Neurology and Psychiatry, Japan, <sup>4</sup>Department of Psychiatry, Shinshu University School of Medicine, Japan

**3P-042 Glycogen synthase kinase-3 (GSK3) does not mediate the excitatory effects of acute lithium exposure in limbic cortical neurons**

Praghalathan Kanthakumar, Brian Hyland, Philip Heyward  
*University of Otago*

## Neurodegenerative Disorders

**3P-043 Thiamine restriction induces thalamic neurodegeneration in Slc19a3-deficient mice**

Kaoru Suzuki<sup>1</sup>, Kenichiro Yamada<sup>2</sup>, Ai Tsuji<sup>3</sup>, Katsumi Shibata<sup>4</sup>, Nobuaki Wakamatsu<sup>5</sup>

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**3P-044 INVOLVEMENT OF ENDOPLASMIC RETICULUM STRESS IN POST-TRANSLATIONAL MODIFICATIONS AND ALPHA-SYNUCLEIN AGGREGATION IN A NEW MODEL OF PARKINSON'S DISEASE**



Valentin Coppola<sup>1</sup>, Evelyne Azevedo<sup>1</sup>, Fernanda Rigo<sup>1</sup>, Juliano Koslosky<sup>1</sup>, Karime Cruz<sup>1</sup>, Clarissa Cavarsan<sup>1</sup>, Anette Ferraz<sup>2</sup>, Marcelo Lima<sup>2</sup>, Lia Sumie Nakao<sup>1</sup>, Silvio Zanata<sup>1</sup>

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**3P-045 alpha-synuclein propagation in brains via olfactory pathway in non-human primate model.**

Masanori Sawamura<sup>1</sup>, Hirotaka Onoe<sup>2</sup>, Norihito Uemura<sup>1</sup>, Tadashi Isa<sup>2</sup>, Ryosuke Takahashi<sup>1</sup>

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**3P-046 In silico Kinome Activity Profiling reveals the critical role of MAP2K2 and PLK1 in neuronal autophagy**



Leilei Chen<sup>1,2</sup>, Yongbo Wang<sup>3</sup>, Juxian Song<sup>1</sup>, Jiahong Lu<sup>4</sup>, Min Li<sup>1</sup>, Yu Xue<sup>3</sup>

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**3P-047 HSF1 suppresses adenovirus-induced neuronal TDP-43 aggregate formation**

Kazuhiko Watabe<sup>1,2</sup>, Yoichiro Kato<sup>2</sup>, Miho Sakuma<sup>3</sup>, Makiko Murata<sup>1</sup>, Motoko Niida-Kawaguchi<sup>2</sup>, Akiyoshi Kakita<sup>4</sup>, Noriyuki Shibata<sup>2</sup>

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**3P-048 Creating mice models for sporadic Parkinson's disease based on its genetic risk factors.**

Masashi Ikuno<sup>1</sup>, Hodaka Yamakado<sup>1</sup>, Hisako Akiyama<sup>2</sup>, Laxmi K Parajuli<sup>3</sup>, Katsutoshi Taguchi<sup>4</sup>, Junko Hara<sup>1</sup>, Norihito Uemura<sup>1</sup>, Yusuke Hatanaka<sup>1</sup>, Katsumi Higaki<sup>5</sup>, Kosaku Ohno<sup>6</sup>, Masaki Tanaka<sup>4</sup>, Masato Koike<sup>3</sup>, Yoshio Hirabayashi<sup>2</sup>, Ryosuke Takahashi<sup>1</sup>

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- 3P-049 Pathophysiological analysis of DRPLA transgenic mice that present progressive myoclonic epilepsy**  
Tomoko Toyota<sup>1</sup>, Huang Zhe<sup>1</sup>, Kazumasa Okada<sup>1</sup>, Toshiya Sato<sup>2</sup>, Shoji Tsuji<sup>3</sup>, Hiroaki Adachi<sup>1</sup>  
<sup>1</sup>Department of Neurology, University of Occupational and Environmental Health School of Medicine, Fukuoka, Japan, <sup>2</sup>Department of Laboratory Animal Science, Kitasato University School of Medicine, Tokyo, Japan, <sup>3</sup>Department of Molecular Neurology, University of Tokyo Graduate School of Medicine, Tokyo, Japan
- 3P-050 Aberrant interaction between FUS and SFPQ in FTLD/ALS and 4R-tau dominant tauopathies.**  
Shinsuke Ishigaki<sup>1,2,3</sup>, Yuichi Riku<sup>1,2</sup>, Yusuke Fujioka<sup>1</sup>, Satoshi Yokoi<sup>1</sup>, Kuniyuki Endo<sup>1</sup>, Nobuyuki Iwade<sup>1</sup>, Kaori Kawai<sup>1</sup>, Minaka Ishibashi<sup>3</sup>, Hirohisa Watanabe<sup>1</sup>, Masahisa Katsuno<sup>1</sup>, Mari Yoshida<sup>2</sup>, Gen Sobue<sup>3</sup>  
<sup>1</sup>Dept Neurol, Nagoya Univ, Grad Sch of Med, Nagoya, <sup>2</sup>Dept Neuropath, Inst Medical Sci Aging, Aichi Medi Univ, Nagakute, Aichi, <sup>3</sup>Research Div Dementia and Neurodegenerative Disease, Nagoya Univ, Grad Sch of Med, Nagoya
- 3P-051 Detection of pathological tau aggregates in a mouse model of tauopathy by fluorine-19 magnetic resonance imaging**  
Daijiro Yanagisawa, Hiroyasu Taguchi, Shigehiro Morikawa, Tomoko Kato, Ikuo Tooyama  
Mol Neurosci Res Center, Shiga Univ of Medical Science, Shiga, Japan
- 3P-052 Antidepressant-like effects of selegiline through restoration of impaired synaptic plasticity in the medial prefrontal cortices of 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine-treated mice**  
Motoki Okano, Kazue Takahata, Junya Sugimoto, Toshiko Ishikawa, Shizuko Muraoka  
Department of Scientific Research, Fujimoto Pharmaceutical Corporation, Osaka, Japan
- 3P-053 Alpha Synuclein Aggregation and Propagation in the Marmoset Brain Deteriorates Its Motor Function**  
Taiki Yabumoto<sup>1</sup>, Baba Kousuke<sup>1</sup>, Hayakawa Hideki<sup>1</sup>, Ikenaka Kensuke<sup>1</sup>, Yoshida Fumiaki<sup>2,3,4,5</sup>, Uehara Takuya<sup>1</sup>, Nakatani Rie<sup>1</sup>, Miyauchi Hideaki<sup>6</sup>, Tsuda Hiroshi<sup>1</sup>, Nagano Seiichi<sup>1</sup>, Hiroki Hamanaka<sup>2,3,7</sup>, Nagai Yoshitaka<sup>8</sup>, Hirata Masayuki<sup>2,3,7</sup>, Mochizuki Hideki<sup>1</sup>  
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- 3P-054 Inhibition of a bone morphogenetic protein, attenuates disease progression of a rat model of amyotrophic lateral sclerosis**  
Tomomi Shijo<sup>1</sup>, Hitoshi Warita<sup>2</sup>, Naoki Suzuki<sup>2</sup>, Kensuke Ikeda<sup>1</sup>, Shio Mitsuzawa<sup>1</sup>, Tetsuya Akiyama<sup>2</sup>, Hiroya Ono<sup>2</sup>, Ayumi Nishiyama<sup>2</sup>, Rumiko Izumi<sup>2</sup>, Masashi Aoki<sup>1</sup>  
<sup>1</sup>Dept Neurol, Tohoku Univ Grad Sch of Med, Miyagi, Japan, <sup>2</sup>Dept Neurol, Tohoku University Hospital, Miyagi, Japan
- 3P-055 Role of LIPC, TIMP-3 and SLC16A8 in Age Related Macular Degeneration**  
Kaushal Sharma<sup>1</sup>, Ramandeep Singh<sup>3</sup>, Suresh Kumar Sharma<sup>1</sup>, Akshay Anand<sup>2</sup>  
<sup>1</sup>Panjab University, <sup>2</sup>Neuroscience Research lab, Department of Neurology, Post Graduate Institute of Medical Education and Research, <sup>3</sup>Department of Ophthalmology, Post Graduate Institute of Medical Education and Research
- 3P-056 Role of oligodendrocyte maturation for  $\alpha$ -synuclein accumulation in a mouse model of multiple system atrophy**  
Asuka Sasaki<sup>1</sup>, Chenghua Jin<sup>1</sup>, Tamaki Iwase<sup>1,2</sup>, Ikuru Yazawa<sup>1</sup>  
<sup>1</sup>Laboratory of Research Resources, Research Institute, National Center for Geriatrics and Gerontology, <sup>2</sup>Nagoya City Koseiin Medical Welfare Center, Nagoya, Japan

- 3P-057**      **Fibril-inoculated A53T alpha-Synuclein BAC Tg mice show early dopaminergic neuron loss and are a useful animal model of Parkinson's disease**  
Shinya Okuda, Norihito Uemura, Ryosuke Takahashi  
*Dept Neurol, Grad Schl Med, Univ of Kyoto, Kyoto, Japan*
- 3P-058**      **Extracellular  $\alpha$ -Synuclein Pre-formed Fibrils Induce Pathological Inclusions in Primary Oligodendrocyte Lineage Cell Culture**  
Seiji Kaji, Takakuni Maki, Hisanori Kinoshita, Norihito Uemura, Ryosuke Takahashi  
*Dept of Neurology, Kyoto University Graduate School of Medicine, Kyoto, Japan*
- 3P-059**      **hnRNPA3 alleviates the GGGGCC toxicity in *C9orf72*-linked amyotrophic lateral sclerosis / frontotemporal dementia model flies**  
Tomoya Taminato<sup>1</sup>, Morio Ueyama<sup>1</sup>, Kohji Mori<sup>2</sup>, Manabu Ikeda<sup>2</sup>, Yoshitaka Nagai<sup>1</sup>  
*<sup>1</sup>Dept Neurotherapeutics, Osaka Univ Grad Sch of Med, Osaka, Japan, <sup>2</sup>Dept Psychiatry, Osaka Univ Grad Sch of Med, Osaka, Japan*
- 3P-060**      **Metabolome analysis in over three consecutive analyses three consecutive years for parkinson's disease**  
Ayami Okuzumi<sup>1</sup>, Shinji Saiki<sup>1</sup>, Taku Hatano<sup>1</sup>, Kei-Ichi Ishikawa<sup>2</sup>, Motoki Fujimaki<sup>1</sup>, Akio Mori<sup>1</sup>, Yutaka Oji<sup>1</sup>, Takahiro Koinuma<sup>1</sup>, Nobutaka Hattori<sup>1</sup>  
*<sup>1</sup>Dept Neurology, Univ of Juntendo, Tokyo, Japan, <sup>2</sup>Dept Neurology, Koto Hospital, Tokyo, Japan*
- 3P-061**      **On the occurrence of autophagy in the central nervous system and the treatment effect of chloroquine in mucopolysaccharidosis type II mice**  
Mitsuyo Maeda<sup>1</sup>, Toshiyuki Seto<sup>2</sup>, Hideto Morimoto<sup>3</sup>, Sachiho Kida<sup>3</sup>, Mitsuo Suga<sup>1</sup>, Asami Eguchi<sup>1,4</sup>, Yosky Kataoka<sup>1,4</sup>, Takashi Hamazaki<sup>2</sup>, Haruo Shintaku<sup>2</sup>  
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- 3P-062**       **$\alpha$ -Synuclein counteracts immature identity of the periglomerular cells in the mouse olfactory bulb after ischemic stroke.**  
Katsutoshi Taguchi<sup>1</sup>, Yoshihisa Watanabe<sup>2</sup>, Atsushi Tsujimura<sup>2</sup>, Masaki Tanaka<sup>1</sup>  
*<sup>1</sup>Dept Anatomy and Neurobiol, Kyoto Pref Univ of Med, <sup>2</sup>Dept Basic Geriatrics, Kyoto Pref Univ of Med*
- 3P-063**      **Tissue- and species-dependent difference in the regulation of ADAR2 expression: an implication for mechanisms underlying sporadic ALS pathogenesis**  
Naoki Hirose, Sayaka Teramoto, Takenari Yamashita, Shin Kwak  
*Grad Schl Med, Univ of Tokyo, Tokyo, Japan*
- 3P-064**      **Induction of valosin-containing protein in skeletal muscle of ALS model rats**  
Kensuke Ikeda<sup>1</sup>, Hitoshi Warita<sup>2</sup>, Naoki Suzuki<sup>2</sup>, Tomomi Shijo<sup>1</sup>, Tetsuya Akiyama<sup>2</sup>, Hiroya Ono<sup>2</sup>, Shio Mitsuzawa<sup>1</sup>, Masashi Aoki<sup>1</sup>  
*<sup>1</sup>Dept Neurol, Tohoku Univ Grad Sch of Med, Sendai, <sup>2</sup>Dept Neurol, Tohoku Univ Hosp, Sendai*
- 3P-065**      **Immune system-mediated modulation of neurodegeneration in Niemann-Pick type C**  
Toru Yasuda<sup>1</sup>, Nobuyuki Watanabe<sup>1</sup>, Toru Uchiyama<sup>1</sup>, Hideki Mochizuki<sup>2</sup>, Masafumi Onodera<sup>1</sup>  
*<sup>1</sup>Dept Human Genet, National Center for Child Health and Development, <sup>2</sup>Dept Neurol, Osaka University*

- 3P-066**      **Elucidating the influence of peripheral immune environment on microglial functions in amyotrophic lateral sclerosis mice.**  
Okiru Komine, Syuhei Ohnuma, Saori Ikeda, Koji Yamanaka  
*Dept Neurosci and Pathobio, Res Inst of Environ Med, Univ of Nagoya, Aichi, Japan*
- 3P-067**      **Analysis of changes in neuropeptides under the condition of Parkinson's disease using the disease-specific iPS cell technology**  
Yukari Suda<sup>1</sup>, Naoko Kuzumaki<sup>1,2</sup>, Michiko Narita<sup>1</sup>, Takefumi Sone<sup>2</sup>, Kenichi Tanaka<sup>1</sup>, Hideki Tamura<sup>3</sup>, Masahiro Shibasaki<sup>1</sup>, Yusuke Hamada<sup>1</sup>, Chizuru Iwasawa<sup>1</sup>, Wado Akamatsu<sup>4</sup>, Nobutaka Hattori<sup>5</sup>, Hideyuki Okano<sup>2,3</sup>, Minoru Narita<sup>1,3</sup>  
<sup>1</sup>Dept. Pharmacol., Hoshi Univ. Sch. Pharm. Pharmaceut. Sci., Tokyo, Japan, <sup>2</sup>Dept. Physiol., Keio Univ. Sch. Med., Tokyo, Japan, <sup>3</sup>L-StaR, Hoshi Univ. Sch. Pharm. Pharmaceut. Sci., Tokyo, Japan, <sup>4</sup>Center for Genomic and Regen. Med., Juntendo Univ. Sch. Med., Tokyo, Japan, <sup>5</sup>Dept. Neurol., Juntendo Univ. Sch. Med., Tokyo, Japan
- 3P-068**      **The hnRNP-Htt axis regulates necrotic cell death induced by transcriptional repression through impaired RNA splicing**  
Hikari Tanaka, Ying Mao, Takuya Tamura, Yoshie Yuki, Daisu Abe, Hidenori Honma, Kazuhiko Tagawa, Hitoshi Okazawa  
*Dept Med, Tokyo Medical and Dental Univ, Tokyo, Japan*
- 3P-069**      **Silencing of FUS in common marmoset caudate induces shortening of fiber tracts accompanied with glial inflammation**  
Kuniyuki Endo<sup>1</sup>, Shinsuke Ishigaki<sup>1</sup>, Hirohisa Watanabe<sup>1</sup>, Yoshito Masamizu<sup>2</sup>, Nobuhiko Hatanaka<sup>3</sup>, Junichi Hata<sup>4</sup>, Akiya Watakabe<sup>5</sup>, Masanori Matsuzaki<sup>2</sup>, Atsushi Nambu<sup>3</sup>, Hideyuki Okano<sup>4</sup>, Tetsuo Yamamori<sup>5</sup>, Masahisa Katsuno<sup>1</sup>, Gen Sobue<sup>1</sup>  
<sup>1</sup>Dept Neurology, Nagoya Univ, Nagoya, Japan, <sup>2</sup>Div Cell Mol Physiol, Univ of Tokyo, Tokyo, Japan, <sup>3</sup>Div System Neurophysiol, National Inst for Physiological Sci, <sup>4</sup>Lab for Marmoset Neural Architecture, RIKEN BSI, Saitama, Japan, <sup>5</sup>Lab for Molecular Analysis for Higher Brain Function, RIKEN BSI, Saitama, Japan
- 3P-070**      **Function analysis of c19orf12 by using a model of Drosophila**  
Takahiro Koinuma, Akio Mori, Taku Hatano, Yuzuru Imai, Nobutaka Hattori  
*Dept Neurology, Juntendo Univ, Tokyo*
- 3P-071**      **Modulation of Hypoxia Signaling Prevents Disease Progression of Amyotrophic Lateral Sclerosis**  
Tomonori Hoshino<sup>1,2</sup>, Shu-Ichi Matsuzawa<sup>1,2</sup>, Ryosuke Takahashi<sup>1</sup>  
<sup>1</sup>Drug Screening Incubation Laboratory, Kyoto University Hospital, Kyoto, Japan, <sup>2</sup>Dept Neurol, Kyoto Univ Grad Sch Med, Kyoto, Japan
- 3P-072**      **Parkinson's disease-associated iPLA2-VIA regulates the remodeling of phospholipid membrane, which is important for dopaminergic functions and  $\alpha$ -Synuclein turnover**  
Akio Mori, Takahiro Koinuma, Tsuyoshi Inoshita, Chikara Yamashita, Taku Hatano, Yuzuru Imai, Nobutaka Hattori  
*Juntendo Univ Med School*
- 3P-073**      **A53T mutant human synuclein BAC transgenic mice as a model for Parkinson's disease**  
Tomoyuki Taguchi<sup>1</sup>, Masashi Ikuno<sup>1</sup>, Maiko Uemura<sup>1</sup>, Mari Hondo<sup>2</sup>, Yusuke Hatanaka<sup>1</sup>, Norihito Uemura<sup>1</sup>, Hodaka Yamakado<sup>1</sup>, Masashi Yanagisawa<sup>2</sup>, Ryosuke Takahashi<sup>1</sup>  
<sup>1</sup>Department of Neurology, Graduate School of Medicine Kyoto University,, <sup>2</sup>International Institute for Integrative Sleep Medicine, Tsukuba University, Ibaraki, Japan

- 3P-074**      **Genetic interaction study of Parkinson's disease-related genes that regulate membrane dynamics**  
Changxu Cui<sup>1</sup>, Tsuyoshi Inoshita<sup>1</sup>, Nobutaka Hattori<sup>1,2</sup>, Yuzuru Imai<sup>1,2</sup>  
*<sup>1</sup>Dept Parkinson's Disease, Univ of Juntendo, Tokyo, Japan, <sup>2</sup>Dept Neurol, Univ of Juntendo, Tokyo, Japan*
- 3P-075**      **Analysis of serum non-mercaptoalbumin in patients with Parkinson's disease**  
Shin-Ichi Ueno<sup>1,2</sup>, Taku Hatano<sup>1</sup>, Ayami Okuzumi<sup>1</sup>, Yutaka Oji<sup>1</sup>, Shinji Saiki<sup>1</sup>, Hitoshi Ikeda<sup>2</sup>,  
Nobutaka Hattori<sup>1</sup>  
*<sup>1</sup>Department of Neurology, Juntendo University Faculty of Medicine, <sup>2</sup>Department of Clinical Laboratory Medicine, The University of Tokyo*
- 3P-076**      **Identification of putative serum biomarkers for Parkinson's Disease due to Parkin mutations by Metabolome analysis**  
Taku Hatano, Ayami Okuzumi, Shin-Ichi Ueno, Takashi Ogawa, Takahiro Koinuma, Yutaka Oji, Akio Mori, Shinji Saiki, Nobutaka Hattori  
*Dept Neurology, Juntendo Univ, Tokyo, Japan*
- 3P-077**      **The improvement of the intestinal environment can protect from neurodegeneration by Parkinson's disease**  
Hirohide Sawada<sup>1,2</sup>, Kaori Muguruma<sup>2</sup>, Satomi Takano<sup>2</sup>, Noboru Ogiso<sup>2</sup>  
*<sup>1</sup>Dept Medical Technology, Kobe Tokiwa Univ, Kobe, Japan, <sup>2</sup>Lab Exp Animal, Nat. Center Geriatrics Gerontology, Obu, Japan*
- 3P-078**      **Analysis of a new molecule that is involved in the PINK1-Parkin-mediated mitophagy.**  
Kahori Shiba<sup>1</sup>, Tsuyoshi Inoshita<sup>1</sup>, Yuko Aoki<sup>2</sup>, Yasushi Ishihama<sup>3</sup>, Yuzuru Imai<sup>2</sup>, Nobutaka Hattori<sup>4</sup>  
*<sup>1</sup>Department of Treatment and Research in Multiple Sclerosis and Neuro-intractable Disease, Juntendo University Graduate School of Medicine, <sup>2</sup>Department of Research for Parkinson's Disease, Juntendo University Graduate School of Medicine, <sup>3</sup>Department of Molecular and Cellular BioAnalysis Kyoto Univ. , <sup>4</sup>Department of Neurology, Juntendo University Graduate School of Medicine*
- 3P-079**      **Pathological analysis of interaction of nuclear factor kappa B with GVD using human tissues in diseases of tauopathy**  
Yuko Yamaguchi, Takashi Ayaki, Ryosuke Takahashi  
*Department of Neurology, Kyoto University Graduate school of Medicine, Kyoto, Japan*
- 3P-080**      **NLRP3 inflammasome play a crucial role in Multiple system atrophy Disease**  
Fangzhou Li, Takashi Ayaki, Ryosuke Takahashi  
*Department of Neurology, Kyoto University Graduate School of Medicine, Japan*
- 3P-081**      **mPGES-1 facilitates an intercellular interaction between CD4+ T cells through IL-1 $\beta$  autocrine function in EAE**  
Takako Takemiya, Marumi Kawakami  
*Medical Research Inst., Tokyo Women's Med. Univ.*
- 3P-082**      **Analysis of DRG neurons in ALS model mice**  
Masaaki Yoshikawa<sup>1</sup>, Mutsumi Matsukawa<sup>1</sup>, Hideki Oshima<sup>2</sup>, Shin Aizawa<sup>1</sup>  
*<sup>1</sup>Div Anat Sci, Dept Funct Morphol, Nihon Univ Sch of Med, Tokyo, Japan, <sup>2</sup>Div Neurosurg, Dept Neurol Surg, Nihon Univ Sch of Med, Tokyo, Japan*

- 3P-083**      **A chemical compound accelerating aging of iPSC-derived neurons revealed progressive phenotypes in late-onset neurodegenerative diseases.**  
Takahiro Shiga<sup>1</sup>, Miyoshi Sakura<sup>2</sup>, Kuzumaki Naoko<sup>4</sup>, Ishikawa Ke-ichi<sup>3,5</sup>, Hattori Nobutaka<sup>3</sup>, Okano Hideyuki<sup>4</sup>, Akamatsu Wado<sup>1</sup>  
<sup>1</sup>Department of Genome and Regenerative Medicine Center, Univ of Juntendo University School of Medicine, <sup>2</sup>Yamaga University, <sup>3</sup>Department of Neurology, Juntendo University School of Medicine, <sup>4</sup>Department of Physiology, Keio University School of Medicine, Tokyo, Japan, <sup>5</sup>Department of Neurology, Koto hospital
- 3P-084**      **Src/c-Abl inhibitors attenuate neurodegeneration in amyotrophic lateral sclerosis**  
Keiko Imamura<sup>1</sup>, Yuishin Izumi<sup>2</sup>, Ryuji Kaji<sup>2,3</sup>, Ryosuke Takahashi<sup>3</sup>, Haruhisa Inoue<sup>1</sup>  
<sup>1</sup>Center for iPS Cell Research and Application (CiRA), Kyoto University, <sup>2</sup>Department of Clinical Neuroscience, University of Tokushima Graduate School, <sup>3</sup>Department of Neurology, Graduate School of Medicine, Kyoto University
- 3P-085**      **Successive long-term assessment of marmoset's motility at home cage.**  
Masashi Koizumi, Naotake Nogami, Terumi Nakatani, Akiyo Kawanobe, Yosuke Saga, Kazuhiko Seki  
Department of Neurophysiology, National Institute of Neuroscience, National Center of Neurology and Psychiatry
- 3P-086**      **Altered basal ganglia network on resting-state functional connectivity associated with freezing of gait in Parkinson's disease**  
Hiroki Togo<sup>1,2</sup>, Nobuhiko Haga<sup>2</sup>, Miho Murata<sup>3</sup>, Takashi Hanakawa<sup>1</sup>  
<sup>1</sup>Integrative Brain Imaging Center, National Center of Neurology and Psychiatry, <sup>2</sup>Dept Rehabilitation Medicine, Univ of Tokyo, Tokyo, Japan, <sup>3</sup>National Center Hospital, NCNP, Tokyo
- 3P-087**      **Identification of novel mTOR interactome**  
Kenta Kawamoto<sup>1</sup>, Kassai Hidetoshi<sup>1</sup>, Hayano Toshiya<sup>2</sup>, Maeda Tatsuya<sup>3</sup>, Aiba Atsu<sup>1</sup>  
<sup>1</sup>Grad Sch of Med, Univ of Tokyo, <sup>2</sup>Dept of Biolo Sci, Ritsumeikan Univ, <sup>3</sup>Inst Molecular and Cellular Biosciences, Univ of Tokyo
- 3P-088**      **Development of the therapeutics targeting an abnormal Src pathway in spinal and bulbar muscular atrophy**  
Madoka Iida<sup>1,2</sup>, Kentaro Sahashi<sup>1</sup>, Naohide Kondo<sup>1</sup>, Hideaki Nakatsuji<sup>1</sup>, Genki Tohnai<sup>1</sup>, Masahisa Katsuno<sup>1</sup>  
<sup>1</sup>Dept Neurol, Nagoya Univ, Sch of Med, Nagoya, <sup>2</sup>Research Fellow of Japan Society for the Promotion of Science, RPD
- 3P-089**      **Administration of exogenous alpha-synuclein pre-formed fibrils to primary oligodendrocyte precursor cells**  
Hisanori Kinoshita, Takakuni Maki, Seiji Kaji, Ryosuke Takahashi  
Kyoto University Graduate School of Medicine, Department of Neurology
- 3P-090**      **Synaptic mechanisms of neuronal circuitry rewiring in the primary motor cortex of a novel mouse model of Parkinson's disease**  
Yusuke Hatanaka, Ryosuke Takahashi  
Dept Neurol, Kyoto Univ Grad Sch Med, Kyoto, Japan
- 3P-091**      **Distinct manifestation of cognitive deficits associate with different resting-state network disruptions in non-demented patients with Parkinson's disease.**  
Satoshi Yokoi<sup>1</sup>, Kazuya Kawabata<sup>1,2</sup>, Hirohisa Watanabe<sup>1,2</sup>, Kazuhiro Hara<sup>1,2</sup>, Epifanio Bagarinao<sup>2</sup>, Reiko Ohdake<sup>2</sup>, Masahisa Katsuno<sup>1</sup>, Gen Sobue<sup>2</sup>  
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**3P-092      Glucose uptake assay in microglial activations: a preliminary study to visualize microglial activations in vivo.**

Gandhervin Kesavamoorthy<sup>1</sup>, Gandhervin Kesavamoorthy<sup>1</sup>, Chie Suzuki<sup>2</sup>, Yasuhiro Magata<sup>2</sup>, Yasuomi Ouchi<sup>1</sup>

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## Molecular, Biochemical and Genetic Techniques

**3P-093      Viral vector-mediated identification of the L7 promoter region regulating Purkinje cell-specific expression**

Keisuke Nitta, Yasunori Matsuzaki, Ayumu Konno, Hirokazu Hirai

Department of Neurophysiology & Neural Repair, Gunma University Graduate School of Medicine

**3P-094      A Flp-dependent G-CaMP9a transgenic mouse for neuronal imaging *in vivo***

Masayuki Sakamoto<sup>1</sup>, Masatoshi Inoue<sup>1</sup>, Kazuki Sakai<sup>1</sup>, Shigetaka Kobari<sup>1</sup>, Sayaka Takemoto-Kimura<sup>1</sup>, Hajime Fujii<sup>1</sup>, Manabu Abe<sup>2</sup>, Kenji Sakimura<sup>2</sup>, Haruhiko Bito<sup>1</sup>

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**3P-095      Cell type-specific transgene expression throughout the brain by intravenous injection of AAV-PHP.B**

Ayumu Konno, Yoichiro Shinohara, Keisuke Nitta, Chiaki Hoshino, Hirokazu Hirai

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**3P-096      Lefty and righty of the scale-eating cichlid share lateralization of brain transcripts**

Yuichi Takeuchi<sup>1</sup>, Asano Ishikawa<sup>2</sup>, Yoichi Oda<sup>3</sup>, Jun Kitano<sup>2</sup>

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**3P-097      Virus-Mediated Genome Editing via Homology-Directed Repair in Mitotic and Postmitotic Cells in Mammalian Brain**

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