

PROGRAM

TUESDAY, September 25—7:00 PM

SESSION 1 PLENARY TALKS

Chairperson: Kazuo Emoto, The University of Tokyo, Tokyo, Japan

Beyond memory circuit—Brain-wide network of cognitive memory and metamemory in the primate

Yasushi Miyashita [35'+10']

Presenter affiliation: RIKEN, Wako, Japan.

1

Connections and communications between distributed neural circuits

Liqun Luo [35'+10']

Presenter affiliation: Stanford University, Stanford, California.

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WEDNESDAY, September 26—9:00 AM

SESSION 2 CIRCUIT FORMATION, DEGENERATION, AND REGENERATION

Chairperson: Takeshi Imai, Kyushu University, Fukuoka, Japan

ADF/Cofilin-mediated actin turnover promotes axon regeneration in the adult CNS

Frank Bradke [20+10']

Presenter affiliation: German Center for Neurodegenerative Diseases (DZNE), Bonn, Germany.

3

Molecular and cellular basis for dendrite regeneration and regeneration in *Drosophila*

Kazuo Emoto [20+10']

Presenter affiliation: The University of Tokyo, Tokyo, Japan.

4

Coffee / Tea Break

Experience-dependent regulation of structural and functional plasticity in *Xenopus* optic tectal neurons

Hollis T. Cline, Hai-yan He, Wanhua Shen [20+10']

Presenter affiliation: The Scripps Research Institute, La Jolla, California.

5

Function and connectivity of optic flow processing circuit in the zebrafish pretectum

Fabian Svava, Anna Kramer, Winfried Denk, Herwig Baier, Fumi Kubo [10'+3']

Presenter affiliation: Max Planck Institute of Neurobiology, Martinsried, Germany; National Institute of Genetics, Mishima, Japan.

6

Building a rat olfactory system in the mouse using interspecies chimeras

Benjamin T. Throesch, Jun Wu, Masahiro Sakurai, Zhuhao Wu, Pavel Osten, Juan Carlos Izpisua Belmonte, Kristin K. Baldwin [10'+3']

Presenter affiliation: University of California San Diego, La Jolla, California; The Scripps Research Institute, La Jolla, California.

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WEDNESDAY, September 26—2:00 PM

SESSION 3 EMOTION, SLEEP, AND SOCIAL BEHAVIOR

Chairperson: **Yoko Yazaki-Sugiyama**, OIST Graduate University, Okinawa, Japan

Nirao Shah [20'+10']

Presenter affiliation: Stanford University, Stanford, California.

The homeostatic regulation and biological function of sleep

Gero Miesenböck [20+10']

Presenter affiliation: University of Oxford, Oxford, United Kingdom.

8

Coffee / Tea Break

Ketamine, burst and depression

Hailan Hu [20+10']

Presenter affiliation: Center for Neuroscience, School of Medicine, Zhejiang University, Hang Zhou, China.

9

mTOR-dependent interferon signaling in microglia modulates social memory in mice

M.F. Lopez-Aranda, I. Chattopadhyay, G.M. Boxx, E.R. Fraley, T. Silva, M. Zhou, M. Phan, R. Mandanas, K. Bach, S. Liu, N. Li, G. Cheng, A. Rzhetsky, S.A. White, Y. Zhou, A.J. Silva [20+10']
Presenter affiliation: UCLA David Geffen School of Medicine, Los Angeles, California.

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Behavioral transition from action style to give up-like style in mice—An animal model for studying neurobiology of give up-like behavior

Nashat Aumaria [10'+3']

Presenter affiliation: Fudan University, Shanghai, China.

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The ASICS DEL-7 and DEL-3 mediate food responses in an enteric serotonergic neuron that drives persistent behaviors

Jeffrey L. Rhoades, Jessica C. Nelson, Ijeoma Nwabudike, Daniel A. Colon-Ramos, Steven W. Flavell [10'+3']

Presenter affiliation: Massachusetts Institute of Technology, Cambridge, Massachusetts.

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WEDNESDAY, September 26—7:00 PM

SESSION 4 POSTER SESSION

Differentiation of intracellular Ca²⁺ sensitivity underlies tonotopic-region-specific Kv1.1 expression in avian cochlear nucleus

Ryota Adachi, Rei Yamada, Hiroshi Kuba

Presenter affiliation: Nagoya University, Nagoya, Japan.

13

Regulation of actin cytoskeleton via LIMK mediates dendrite pruning in mitral cells

Shuhei Aihara, Takeshi Imai

Presenter affiliation: Kyushu University, Fukuoka, Japan.

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C1q11-Bai3 signaling dynamically modulates climbing fiber synapses in adult cerebellum

Takahiro Aimi, Wataru Kakegawa, Michisuke Yuzaki

Presenter affiliation: Keio University, Tokyo, Japan.

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<p>Auditory input shapes tonotopic differentiation of Kv1.1 expression in avian cochlear nucleus during late development <u>Nargis Akter</u>, Ryota Adachi, Akitoshi Kato, Ryota Fukaya, Hiroshi Kuba Presenter affiliation: Nagoya University , Nagoya, Japan.</p>	16
<p>Live imaging of microglia-dependent synaptic remodeling <u>Megumi Andoh</u>, Ryuta Koyama, Yuji Ikegaya Presenter affiliation: Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, Japan.</p>	17
<p>Transcriptional and epigenetic consequences of early life stress on murine frontal cortex <u>Natalia Bondar</u>, Arina Lepeshko, Nikita Ershov, Vasily Reshetnikov, Yulia Ryabushkina, Anastasia Shulyupova, Tatiana Merkulova Presenter affiliation: Institute of Cytology and Genetics of SB RAS, Novosibirsk, Russia; National Research Novosibirsk State University, Novosibirsk, Russia.</p>	18
<p>A catalytic activity-independent role for the extrinsic apoptotic pathway interacting with early endosomes to restrict axonal arbor growth and synaptogenesis in vivo Ilya N. Kotov, <u>Douglas S. Campbell</u> Presenter affiliation: Technical University of Munich, Munich, Germany; Waseda University, Tokyo, Japan.</p>	19
<p>Postnatal development of the mouse auditory cortex <u>Feifan Chen</u>, Makoto Takemoto, Masataka Nishimura, Ryohei Tomioka, Wen-Jie Song Presenter affiliation: Kumamoto University, Kumamoto, Japan.</p>	20
<p>Rescue of Huntington’s disease in a mouse model by CRISPR-mediated gene editing of human <i>HTT</i> <u>Yuanyi Dai</u>, Wanping Huang, Jingyu Zhao, Sushuang Zheng, Chenjian Li Presenter affiliation: Peking University, Beijing, China.</p>	21
<p>Plugging the leak—Causes of and solutions to unwanted “leak” expression in recombinase-dependent AAVs <u>Kyle B. Fischer</u>, Hannah K. Collins, Edward M. Callaway Presenter affiliation: Salk Institute, La Jolla, California; UC San Diego, La Jolla, California.</p>	22

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<u>Ou Fu</u> , Yu Iwai, Takumi Misaka, Yasuhiko Minokoshi, Ken-ichiro Nakajima	
Presenter affiliation: The University of Tokyo, Tokyo, Japan; National Institute for Physiological Sciences, Okazaki, Japan.	23
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<u>Huong T. Ha</u> , Sally A. Kim, Kriti L. Lalwani, Itaru Hamachi, Shigeki Kiyonaka, John R. Huguenard, Craig C. Garner	
Presenter affiliation: School of Medicine, Stanford University, Palo Alto, California.	24
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<u>Shun Hamada</u> , Toshihisa Ohtsuka	
Presenter affiliation: University of Yamanashi, Yamanashi, Japan.	25
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<u>Eri Hasegawa</u> , Yasuko Kitatani, Satoyoshi Yanagi, Akane Tezuka, Kazuo Emoto	
Presenter affiliation: The University of Tokyo, Tokyo, Japan.	26
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Presenter affiliation: University of Hyogo, Akou-gun, Japan.	27
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<u>Masateru (Masaki) Hiramoto</u> , Hollis Cline	
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- The trisynaptic disinhibitory network linking mushroom body parallel circuits induces memory consolidation in *Drosophila*.**
Yukinori Hirano, Hiroko Awata, Mai Takakura, Ikuko Iwata, Yoko Kimura, Tomoko Masuda
 Presenter affiliation: Kyoto University Graduate School of Medicine, Kyoto, Japan. 30
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 Presenter affiliation: Zhejiang University School of Medicine, Hangzhou, China. 31
- Impact of reference methods on the performance of brain-computer interfaces based on Ear-EEG**
 Soo-In Choi, Rahmawati, Han-Jeong Hwang
 Presenter affiliation: Kumoh National Technology of Institute, Gumi, South Korea. 32
- Abnormal microglial movements and morphology in schizophrenia model mice and their effect on neural circuit**
Ako Ikegami, Koichiro Haruwaka, Yoshihisa Tachibana, Tsuyoshi Takagi, Junichiro Nabekura, Tsuyoshi Miyakawa, Hiroaki Wake
 Presenter affiliation: Kobe University Graduate School of Medicine, Kobe, Japan. 33
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 Presenter affiliation: Kyushu University, Fukuoka, Japan. 34
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Kengo Inada, Hokto Kazama
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 Presenter affiliation: The Salk Institute for Biological Studies, La Jolla, California. 37
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 Presenter affiliation: The University of Tokyo, Tokyo, Japan. 38
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 Presenter affiliation: National Institute of Genetics, Mishima, Japan; Yamanashi University, Chuo, Japan. 39
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Shoole Jamali, Abbas Haghparast
 Presenter affiliation: Neuroscience Research Center, Tehran, Iran. 40
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Takeshi Kanda, Takehiro Miyazaki, Hideitsu Hino, Masashi Yanagisawa
 Presenter affiliation: University of Tsukuba, Ibaraki, Japan. 41
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Jelena Katic, Yoko Yazaki-Sugiyama
 Presenter affiliation: Okinawa Institute of Science and Technology Graduate University, Onna, Japan. 42
- Sequential activities of cortical neurons in the mouse piriform cortex during sharp wave**
Kazuki Katori, Hiroyuki Manabe, Ai Nakashima, Takuya Sasaki, Yuji Ikegaya, Haruki Takeuchi
 Presenter affiliation: Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, Japan. 43

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 Presenter affiliation: Tokyo Institute of Technology, Yokohama, Japan. 44
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Junsuk Kim
 Presenter affiliation: Institute for Basic Science (IBS), Suwon, South Korea; Sungkyunkwan University, Suwon, South Korea. 48
- Noradrenergic modulation of cerebellar glial activity during nociception**
Seung Ha Kim, Sun Kwang Kim, Sang Jeong Kim
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 Presenter affiliation: Peking-Tsinghua Center for Life Sciences, Beijing, China. 60
- Afadin plays multiple roles in the structural and functional differentiations of hippocampal giant mossy fiber synapses**
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 Presenter affiliation: Tokushima University Graduate School of Medical Sciences, Tokushima, Japan; Kobe University Graduate School of Medicine, Kobe, Japan. 61
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 Presenter affiliation: Tokyo Women's Medical University, Tokyo, Japan; Doshisha University, Kyoto, Japan. 62
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Kazunari Miyamichi, Kentaro K. Ishii, Takuya Osakada, Hiromi Mori, Kazushige Touhara
 Presenter affiliation: The University of Tokyo, Tokyo, Japan; JST, Tokyo, Japan; RIKEN, Kobe, Japan. 63
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 Presenter affiliation: Fujita Health University, Aichi, Japan; The Graduate University for Advanced Studies, Kanagawa, Japan; National Institute for Physiological Sciences, Aichi, Japan. 64
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- Single-neuron resolution study reveals faster extension of a long associational axon collateral of an ipsi- and contralateral dual-projection neuron during cortical development**
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- Intrinsic plasticity of the cerebellar Purkinje cells is required for cerebellar-dependent motor memory formation**
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 Presenter affiliation: Seoul National University, College of Medicine, Seoul, South Korea. 81
- Multilevel innervations to the auditory pathway by GABAergic neurons in the mouse basal ganglia**
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 Presenter affiliation: Kumamoto University, Kumamoto, Japan. 82
- Altruistic allogrooming in mice**
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 Presenter affiliation: National Tsing Hua University, Hsinchu, Taiwan. 83
- Temperature and mechanical stimuli are working together to elicit TRPV2 activation, and promote axon outgrowth.**
Shouta Sugio, Mai Oda, Khoki Okabe, Koji Shibasaki
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 Presenter affiliation: Kagoshima University Graduate School of Medical and Dental Sciences, Kagoshima, Japan; Kyoto University Graduate School of Science, Kyoto, Japan. 85
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<p>Genetic access to vocalization-responsive neurons in the mouse cortex <u>Gen-ichi Tasaka</u>, Maya Groysman, Liqun Luo, Adi Mizrahi Presenter affiliation: The Hebrew University of Jerusalem, Jerusalem, Israel.</p>	89
<p>4D imaging of membrane traffic in the growth cone <u>Takuro Tojima</u>, Akihiko Nakano Presenter affiliation: RIKEN Center for Advanced Photonics, Wako, Saitama, Japan.</p>	90
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Deletion of a conserved PQC regulator causes memory defects in mouse <u>Guan Wang</u> , Zhiping Wang Presenter affiliation: Zhejiang University School of Medicine, Hangzhou, China.	95
A toolbox of genetically-encoded fluorescent sensors for monitoring purinergic neurotransmitters <u>Huan Wang</u> , Zhaofa Wu, Kaikai He, Liting Dong, Hao Wu, Min Xu, Yulong Li Presenter affiliation: Peking University, Beijing, China.	96
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SESSION 5 CHANNEL AND CIRCUIT FORMATION

Chairperson: Hiroshi Kuba, Nagoya University, Nagoya, Japan

Convergent circuitry for thermoregulation

Lily Jan [20'+10']

Presenter affiliation: University of California, San Francisco / Howard Hughes Medical Institute, San Francisco, California.

Takao Hensch [20'+10']

Presenter affiliation: Harvard University, Cambridge, Massachusetts.

Coffee / Tea Break

The roles of visual experience in the maturation of neural responses in the visual cortex

Yumiko Yoshimura [20'+10']

Presenter affiliation: National Institutes of Natural Sciences, Okazaki, Japan.

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Mechano-sensitive channels in sensory physiology and neural regeneration

Yuh-Nung Jan [20'+10']

Presenter affiliation: University of California, San Francisco / Howard Hughes Medical Institute, San Francisco, California.

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Epidermal cells augment nociceptive circuitry in *Drosophila melanogaster*.

Claire R. Williams, Jiro Yoshino, Takeshi Morita, Connie Yan, Diana Bautista, Kazuo Emoto, Jay Z. Parrish [10'+3']

Presenter affiliation: University of Washington, Seattle, Washington.

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Sensory and motor regulation of egg-laying behavior in *Drosophila*

Kevin M. Cury, Ariel D. Pourmorady, Richard Axel [10'+3']

Presenter affiliation: Columbia University, New York, New York.

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THURSDAY, September 27—2:00 PM

SESSION 6 CORTICAL DEVELOPMENT AND FUNCTION

Chairperson: Nobuhiko Yamamoto, Osaka University, Suita, Japan

Deciphering species-specific properties of human corticogenesis

Pierre Vanderhaeghen [20+10']

Presenter affiliation: VIB/KULeuven, Leuven, Belgium. 106

The niche goes global—Long-range regulation of adult neural stem cells

Fiona Doetsch [20+10']

Presenter affiliation: University of Basel, Basel, Switzerland. 107

Mutations in neuronal chromatin remodeler *BAF53b* cause social deficits in human and mice and circuitry defects in flies

Joseph G. Gleeson [20+10']

Presenter affiliation: Howard Hughes Medical Institute, University of California, San Diego, La Jolla, California. 108

Feeding regulation by tuberous nucleus somatostatin neurons

Xinwei S. Luo, Ju Huang, Qin Li, Yu Fu [10'+3']

Presenter affiliation: Singapore Bioimaging Consortium, Singapore. 109

Uncovering the mechanisms underlying cortical folding using gyrencephalic ferrets

Hiroshi Kawasaki [10'+3']

Presenter affiliation: Kanazawa University, Kanazawa, Japan. 110

THURSDAY, September 27—4:30 PM

SESSION 7 DISEASE MODELS

Chairperson: Tsuyoshi Miyakawa, Fujita Health University, Toyoake, Japan

Trying to make sense of nonsense-mediated decay in neurodevelopmental disorders

Mauro Costa-Mattioli [20+10']

Presenter affiliation: Baylor College of Medicine, Houston, Texas. 111

Expanding mechanisms and therapeutic targets for neurodegenerative disease

Aaron D. Gitler [20+10']

Presenter affiliation: Stanford University, Stanford, California. 112

UTX histone demethylase deficiency causes cognitive impairments

Weidong Li [20+10']

Presenter affiliation: Shanghai Jiao Tong University, Shanghai, China. 113

The novel roles of tumor suppressor p53 in impaired homeostatic plasticity in fragile X syndrome mice

Nien-Pei Tsai [10'+3']

Presenter affiliation: University of Illinois at Urbana-Champaign, Urbana, Illinois. 114

Remote control of neuronal function using inorganic phosphor absorbing electromagnetic waves

Takanori Matsubara, Noriaki Kawaguchi, Takayuki Yanagida, Akihiro

Yamanaka, Takayuki Yamashita [10'+3']

Presenter affiliation: Nagoya University, Nagoya, Japan; JST, Kawaguchi, Japan. 115

THURSDAY, September 27—7:00 PM

COCKTAILS and BANQUET

FRIDAY, September 28—9:00 AM

SESSION 8 SYNAPSE

Chairperson: **Akiko Hayashi-Takagi**, Gunma University, Gunma, Japan

The disease-associated protein CYFIP1 regulates axonal growth and brain wiring

Nuria Dominguez, Claudia Bagni [20+10']

Presenter affiliation: University of Lausanne, Lausanne, Switzerland. 116

The C1q complement family of synaptic organizers—Not just complementary

Michisuke Yuzaki [20+10']

Presenter affiliation: Keio Univ School of Medicine, Tokyo, Japan.

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Coffee / Tea Break

Jennifer Raymond [20'+10']

Presenter affiliation: Stanford University, Stanford, California.

Wnt and gap junction proteins cooperatively regulate axonal and synaptic tiling in *C. elegans*

Ardalan Hendi, Kota Mizumoto [10'+3']

Presenter affiliation: University of British Columbia, Vancouver, Canada.

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Glial control of learning and memory through the regulation of ephrin-B1 levels in astrocytes

Jordan Koeppen, Amanda Q. Nguyen, Angeliki M. Nikolakopoulou, Simone Woodruff, Zoe Figueroa, Iryna M. Ethell [10'+3']

Presenter affiliation: University of California Riverside, School of Medicine, Riverside, California.

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The development of neural circuitry in the *Drosophila* visual system

Larry Zipursky [20+10']

Presenter affiliation: Howard Hughes Medical Institute, University of California, Los Angeles, Los Angeles, California.

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