

Abstracts of papers presented
at the 2025 Cold Spring Harbor Asia Conference

FRANCIS CRICK SYMPOSIUM IN NEUROSCIENCE: DEVELOPMENT, PLASTICITY & FUNCTION OF NEURAL CIRCUITS

September 8–September 12, 2025

Arranged by

Joseph Gleeson, *University of California, San Diego*
Yukiko Goda, *Okinawa Institute of Science and Technology*
Bo Li, *Westlake University*
Anne Schaefer, *Max Planck Institute for Biology of Aging*
Song-Hai Shi, *Tsinghua University*



Cold Spring Harbor Conferences Asia
Cold Spring Harbor Laboratory



**FRANCIS CRICK SYMPOSIUM IN NEUROSCIENCE:
DEVELOPMENT, PLASTICITY & FUNCTION OF NEURAL CIRCUITS**
Monday, September 8 – Friday, September 12, 2025

Monday	7:00 pm	Keynote Speaker 1 Circuit Assembly and mapping
Tuesday	9:00 am	2 Stem Cells and Brain Development
Tuesday	2:00 pm	Poster Session
Tuesday	3:00 pm	<i>Chinese Tea and Beer Tasting</i>
Tuesday	7:00 pm	3 Neuronal Development and Diversity
Wednesday	9:00 am	4 Synapses and Local Circuit Milieu
Wednesday	1:30 pm	<i>Visit to Old Suzhou*</i>
Wednesday	7:00 pm	5 Learning and Memory
Thursday	9:00 am	6 Brain Development and Brain Disorders
Thursday	2:00 pm	7 Neural Circuits and Behavior
Thursday	5:00 pm	<i>Cocktails and Banquet</i>
Friday	9:00 am	8 Neurobiology of Brain Disorders and Aging

Oral presentation sessions are located in the CSHA Auditorium
Poster session and Chinese Tea & Beer Tasting are in the Lake Front Hall.
Cocktail social hour is held outside in the Suz Garden.
Old Suzhou visits depart from the CSHA lobby
**optional tour requires additional fee.*

Meal locations and times are as follows:
Lunch: Main Cafeteria 12:00pm - 1:30pm
Dinner: Main Cafeteria 6:00pm - 7:30pm
Banquet: Suz Garden 6:00pm

More information will be available at CSHA office.
(Map at the end of this abstract book)

PROGRAM

MONDAY, September 8—7:00 PM

SESSION 1 CIRCUIT ASSEMBLY AND MAPPING

Chairpersons: **Bo Li**, Westlake University, Hangzhou, China
 Song-Hai Shi, Tsinghua University, Beijing, China

KEYNOTE SPEAKER

Wiring specificity of neural circuits

Liqun Luo, Cheng Lyu, Zhuoran Li, Daniel Pederick, Ellen Gingrich,
Uree Chon [35'+10']

Presenter affiliation: Stanford University, Stanford, California.

1

Activity-dependent remodeling of neuronal circuits during development

Takeshi Imai [20'+10']

Presenter affiliation: Kyushu University, Fukuoka, Japan.

2

Mesoscale mapping of the nervous system—From brain to body

Guoqiang Bi [20'+10']

Presenter affiliation: University of Science and Technology of China,
Hefei, China; CAS Shenzhen Institute of Advanced Technology,
Shenzhen, China.

3

Functional imaging of developing brain in mice and non-human primates

Jiejun Zhu, Dongming He, Mengzhu Sun, Hanming Zheng, Xiaoli Lin,
Weizhen He, Lijie Zhang, Zihao Chen, Jin Yang, Chengqi Lin, Yun Shi,
Lei Sun, Zhihai Qiu [10'+5']

Presenter affiliation: Guangdong Institute of Intelligence Science and
Technology, Zhuhai, China.

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SESSION 2 STEM CELLS AND BRAIN DEVELOPMENT

Chairpersons: **Yukiko Gotoh**, University of Tokyo, Tokyo, Japan
 Fiona Doetsch, University of Basel, Basel, Switzerland

Temporal regulation of neural stem-progenitor cell fate during neocortical development

Yukiko Gotoh [20'+10']

Presenter affiliation: The University of Tokyo, Tokyo, Japan. 5

Regulation and heterogeneity of adult neural stem cells

Fiona Doetsch [20'+10']

Presenter affiliation: University of Basel, Basel, Switzerland. 6

Non-epithelial radial glial cells maintain the production of GABAergic inhibitory neurons and glial cells in the developing human brain

Longzhong Jia, Xiaohan Li, Yiming Yan, Linhe Xu, Weichao wang, Lianyan Li, Da Mi [10'+5']

Presenter affiliation: Tsinghua University, Beijing, China. 7

FEZ1 deletion disrupts human cortical brain development by altering the ratio of outer radial glial cell subpopulations

John Jia En Chua

Presenter affiliation: National University of Singapore, Yong Loo Lin School of Medicine, Singapore. 8

Break

Achieving singularity in olfactory receptor gene expression

Stavros Lomvardas [20'+10']

Presenter affiliation: Columbia University, New York, New York. 9

Oncogenic fusions converge on shared mechanisms in initiating astroblastoma

Wei Shi [10'+5']

Presenter affiliation: Chinese Institute for Brain Research, Beijing, China. 10

- Premature cortical inhibitory neurogenesis in Down syndrome**
 Jingwen Ding, Chang N. Kim, Tomasz J. Nowakowski, Alex A. Pollen
 [10'+5']
 Presenter affiliation: University of California San Francisco, San Francisco, California. 11
- Teneurin isoformic coding in fly olfactory circuit assembly**
 Jiahang Ju, Tongchao Li
 Presenter affiliation: Zhejiang University, Hangzhou, China. 12
- Neuronal pruning and its implications in human neurodevelopmental disorders**
Fengwei Yu
 Presenter affiliation: Temasek Life Sciences Laboratory, Singapore. 13

TUESDAY, September 9—2:00 PM

POSTER SESSION

- Stress novelty influences cholinergic involvement in hippocampal early gene activation**
Alexey P. Bolshakov, Angelina K. Deryabina, Alexandra A. Fedulova, Alena A. Koryagina, Yulia V. Dobryakova
 Presenter affiliation: Institute of Higher Nervous Activity and Neurophysiology, Moscow, Russia. 14
- The role of calcium signaling during neural development in bipolar disorder**
Melis Çelik, Mahnaz Nikpour, Vika Telle, Bingqing He, Berta Marcó de La Cruz, Parvaneh Nikpour, Lina Jonsson, Carl M. Sellgren, Mikael Landén, Erik Smedler
 Presenter affiliation: University of Gothenburg, Gothenburg, Sweden. 15
- Probiotic intervention restores microglial surveillance and synaptic architecture in the aging cortex**
Chia-Chien E. Chen, Hyo Gun Lee, Ju Lu, Yi Zuo
 Presenter affiliation: Duke Kunshan University, Suzhou, China; University of California Santa Cruz, Santa Cruz, California. 16

Mapping ultrasound-driven neural activity at millisecond resolution via voltage sensors

Congmin Chen, Langzhou Liu, Yong Wu, Lei Sun

Presenter affiliation: The Hong Kong Polytechnic University, Hong Kong, China.

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Multimodal single-cell analyses reveal molecular markers of neuronal senescence in human drug-resistant epilepsy

Jiadong Chen

Presenter affiliation: Zhejiang University, Hangzhou, China.

18

How does the brain learn? A dynamical systems perspective

Zihao Chen, Zhihai Qiu, Lei Sun

Presenter affiliation: Guangdong Institute of Intelligence Science and Technology, Zhuhai, China; The Hongkong Polytechnic University, Hong Kong, China.

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Pathway-specific hippocampal plasticity gated by theta-frequency medial septal cholinergic activity

Yulia V. Dobryakova, Tinna A. Korotkova, Alexey P. Bolshakov, Vladimir A. Markevich

Presenter affiliation: Institute of Higher Nervous Activity and Neurophysiology of the Russian Academy of Science, Moscow, Russia.

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Identifying electrophysiological biomarkers in hiPSC-derived neurons from ADHD patients

Lorenzo D. Dodi, Sreedhar S. Kumar, Edna Grünblatt, Andreas Hierlemann

Presenter affiliation: ETH Zürich, Basel, Switzerland.

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Dissecting the cellular effects of schizophrenia risk variants: 3q29 deletion and duplication in neurodevelopment and function

Bingqing He, Lovisa Lettius, Melis Çelik, Fredrik H. Sterky, Jennifer G. Mülle, Erik Smedler

Presenter affiliation: University of Gothenburg, Gothenburg, Sweden.

22

Temporal and Notch identity determine layer targeting and synapse location in the fly visual system

Isabel Holguera, Yen-Chung Chen, Yu-Chieh David Chen, Félix Simon, Adelia G. Gaffney, Rodas D. Joseph, Sergio Córdoba, Claude Desplan

Presenter affiliation: New York University, New York, New York; Institut Jacques Monod, Paris, France.

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ERK-dependent amyloidogenesis drives hydrocephalus across etiologies Lingling Ge, Zhichao Wang, Qingfeng Li, <u>Wei Huang</u> Presenter affiliation: Chinese Academy of Sciences, Center for Excellence in Brain Science and Intelligence Technology, Shanghai, China.	24
Targeted mechanogenetics to modulate specific deep neural circuits Xuandi Hou, <u>Jianing Jing</u> , Zhuohan Shi, Lei Sun Presenter affiliation: The Hong Kong Polytechnic University, Hong Kong, China.	25
RACK1 as a dynamic platform for protein (de)phosphorylation and translational control in neurons <u>Peter M. Kolosov</u> , Polina A. Fortygina, Nikita S. Biziaev, Ekaterina Y. Shuvalova, Elena Z. Alkalaeva Presenter affiliation: Engelhardt Institute of Molecular Biology, The Russian Academy of Sciences, Moscow, Russia; Institute of Higher Nervous Activity and Neurophysiology, The Russian Academy of Sciences, Moscow, Russia.	26
Relation between valence and locomotor performance using well established optogenetic tools in <i>Drosophila melanogaster</i> <u>Nicole M. Lee</u> , Adam Claridge-Chang Presenter affiliation: Duke-NUS Medical School, Singapore.	27
Non-invasive targeted vector delivery for spatially precise and flexible sonogenetics <u>Danni Li</u> , Quanxiang Xian, Yizhou Jiang, Lei Sun Presenter affiliation: The Hong Kong Polytechnic University, Kowloon, Hong Kong, China.	28
An RNA-RNA interaction required for GABA signaling in <i>Drosophila</i> <u>Ryan Loker</u> , Claude Desplan Presenter affiliation: New York University, New York, New York.	29
Fluorescent barcode vectors for mesoscopic circuit mapping <u>Daichi Moriyasu</u> , Satoshi Fujimoto, Fuyuki Kamizono, Saha Biswanath, Yuki Ishida, Hikari Takeshima, Akiya Watakabe, Itaru Imayoshi, Takeshi Imai Presenter affiliation: Kyushu University, Fukuoka, Japan.	30

Alzheimer's disease associated PS1 mutation disrupt cortical development through NOTCH signaling <u>Jiyong Peng, Jiong Shi</u> Presenter affiliation: University of Science and Technology of China, Hefei, China.	31
Mechanisms of pial astrocyte specification in the developing mouse cerebral cortex <u>Masatake Sasaki, Koji Oishi, Yukiko Gotoh</u> Presenter affiliation: The University of Tokyo, Tokyo, Japan.	32
Perinatal opioid exposure disrupts immune signalling in the prefrontal cortex and dorsal hippocampus of juvenile rats <u>Rinjani Soengkoeng, Arshman S. Sahid, Abigail Marcus, Adam K. Walker, Ju-Lee Oei, Kelly Clemens, Meredith Ward</u> Presenter affiliation: University of New South Wales, Sydney, Australia.	33
3D in vitro modelling of 1q21.1 duplication syndrome <u>Aleksandra T. Spasova, Tianqi Wang, Yasir A. Syed</u> Presenter affiliation: Cardiff University, Cardiff, United Kingdom.	34
Sonogenetics and neuroscience utility <u>Lei Sun</u> Presenter affiliation: the Hong Kong Polytechnic University, Hung Hom, Hong Kong, China.	35
Dopamine D1 receptors in the medial prefrontal cortex regulate methamphetamine seeking <u>Yiwen Sun, Sai Shi</u> Presenter affiliation: Shanghai Jiao Tong University School of Medicine, Shanghai, China.	36
Investigating the cellular microarchitecture of squid optic lobe <u>Rudi Tong, Vasileios Glykos, Lada Dolezalova, Samuel Reiter, Yukiko Goda</u> Presenter affiliation: Okinawa Institute of Science and Technology, Okinawa, Japan.	37
Efficiency to inefficiency—EEG patterns of healthy ageing in response to a cognitive challenge Lily Mei G. Mckechnie, Jon Garner, <u>Shaoyu Wang</u> Presenter affiliation: Charles Sturt University, Orange, Australia.	38

Using patient-induced pluripotent stem cells derived cortical organoids to investigate human neuronal phenotypes in 3q29 deletion and duplication syndrome	
<u>Tiangi Wang</u> , Kubra Trabzonlu, Yasir Ahmed Syed	
Presenter affiliation: Cardiff University, Cardiff, United Kingdom.	39
DCX knockout ferret reveals a neurogenic mechanism in cortical development	
<u>Wei Wang</u> , Xiaoqun Wang	
Presenter affiliation: Institute of Biophysics, Chinese Academy of Sciences, Beijing, China.	40
Methyl gallate attenuates post-stroke emotional and cognitive symptoms by promoting hippocampal neurogenesis via PI3K/GSK3 and AMPK signaling	
<u>Limin Xu</u> , Feifei Chen, Haimei Fan, Longxing Zhang, Fei Yang, Jianyu Pang, Baolong Pan, Xuemei Wu	
Presenter affiliation: The Chinese University of Hong Kong, Shenzhen, China.	41
Miniaturized and accessible functional ultrasound imaging system for freely moving mice	
<u>Jin Yang</u> , Erlei Zhou, Lei Sun, Wentao Wu, Zhihai Qiu	
Presenter affiliation: Guangdong Institute of Intelligence Science and Technology, Zhuhai, China; The Hong Kong Polytechnic University, Hong Kong, China.	42
A vagal liver-brain circuit for inflammation sensing and response	
<u>Na Zhang</u> , Zhiyin Lam, Sarah, Xinwei Luo	
Presenter affiliation: Agency for Science, Technology and Research (ASTAR), Singapore.	43
Inhibitory-neuron-specific sonogenetics for microcircuit modulation	
<u>Dongshuai Zhao</u> , Lei Sun	
Presenter affiliation: The Hong Kong Polytechnic University, Hong Kong, China.	44
TMTC3 stabilizes LAMB1 to maintain basement membrane integrity in cortical development	
<u>Shufang Zhao</u> , Xiaoxu Yang, Harry Vong, Adnan Halim, Guoliang Chai, Joseph G. Gleeson	
Presenter affiliation: Xuanwu Hospital Capital Medical University, National Center for Neurological Disorders, Beijing, Beijing, China.	45

Cytoskeletal coordination in neuronal development—Nesprin-2-mediated nuclear translocation via microtubule motors and IgSF11-guided axon projection

Chuying Zhou, Chunyun Jia, Mineko Kengaku, Liming Tan
Presenter affiliation: Shenzhen Key Laboratory of Neuropsychiatric Modulation, Shenzhen, China; CAS Key Laboratory of Brain Connectome and Manipulation, Shenzhen, China; Guangdong Provincial Key Laboratory of Brain Connectome and Behavior, Shenzhen, China.

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TUESDAY, September 9—3:00 PM

Chinese Tea and Beer Tasting

TUESDAY, September 9—7:00 PM

SESSION 3 NEURONAL DEVELOPMENT AND DIVERSITY

Chairpersons: **Song-Hai Shi**, School of Life Sciences, Tsinghua University, Beijing, China
Claude Desplan, New York University, New York, New York, USA

Evolutionary emergence of striatal GABAergic interneuron types in mammals modulates behavioral flexibility

Song-Hai Shi [20'+10']
Presenter affiliation: School of Life Sciences, Tsinghua University, Beijing, China.

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Cortical inhibitory neurons exhibit expanding and contracting modes of diversification.

Lynette Lim [20'+10']
Presenter affiliation: VIB, Leuven, Belgium; KUL, Leuven, Belgium.

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Deterministic and stochastic generation of neuronal diversity

Claude Desplan, Raghu Rajesh, Yen-Chung Chen, Khaled Ben Elkadhi, Asif Bakshi, Neset Ozel [20'+10']
Presenter affiliation: New York University, New York, New York; NYU Abu Dhabi, Abu Dhabi, United Arab Emirates.

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Pyramidal neurons provide both instructive and permissive signaling to specific interneuron subtypes

Min Dai, Gord Fishell [10'+5']

Presenter affiliation: Harvard Medical School, Boston, Massachusetts. 50

Mitotic bookmarking in brain development

Yan Song [10'+5']

Presenter affiliation: Peking University, Beijing, China. 51

Modelling neurodevelopmental disorders in flies and mammalian systems

Hongyan Wang [10'+5']

Presenter affiliation: Duke-NUS Medical School, Singapore. 52

WEDNESDAY, September 10—9:00 AM

SESSION 4 SYNAPSES AND LOCAL CIRCUIT MILIEU

Chairpersons: **Yukiko Goda**, Okinawa Institute of Science and Technology, Okinawa, Japan
Shujia Zhu, Southern University of Science and Technology, Shenzhen, China

Insights into synapse function through astrocyte links

Yukiko Goda [20'+10']

Presenter affiliation: Okinawa Institute of Science and Technology Graduate University, Okinawa, Japan. 53

Decoding synaptic signaling dynamics underlying plasticity

Ryohei Yasuda [20'+10']

Presenter affiliation: Max Planck Florida Institute for Neuroscience, Jupiter, Florida. 54

Native NMDA receptors in the brain—From atomic structure to synaptic physiology

Shujia Zhu [20'+10']

Presenter affiliation: Southern University of Science and Technology, Shenzhen, China. 55

Break

Neuronal morphology maintenance involves membrane phospholipid asymmetry and extracellular vesicle biogenesis

Andrew D. Chisholm [10'+5']

Presenter affiliation: UC San Diego, La Jolla, California.

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Proteomic landscape of neuronal nuclei in a mouse long-term potentiation model with ultra-low input

Mo Hu, Yuan Yuan, Ye Tian [10'+5']

Presenter affiliation: Changping Laboratory, Beijing, China.

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Astrocyte morphogenesis requires self-recognition

John H. Lee, Alina Sergeeva, Göran Ahlsen, Seetha Manneppalli, Fabiana Bahna, Kerry Goodman, Runzheu Xu, Baljit Khakh, Joshua Weiner, Lawrence Shapiro, Barry Honig, Lawrence Zipursky [10'+5']
Presenter affiliation: University of California Los Angeles, Los Angeles, California.

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CD47's regulation of memory processes

Jiaoyang Wo, Yunlong Liu, Xiaoyu Chen, Sheena A. Josselyn, Paul W. Frankland [10'+5']

Presenter affiliation: University of Toronto, Toronto, Canada; The Hospital for Sick Children, Toronto, Canada.

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WEDNESDAY, September 10—1:30 PM

Visit to Old Suzhou

WEDNESDAY, September 10—7:00 PM

SESSION 5 LEARNING AND MEMORY

Chairpersons: **Paul Frankland**, Hospital for Sick Children, University of Toronto, Toronto, Canada
Yasunori Hayashi, Kyoto University Graduate School of Medicine, Kyoto, Japan

Roles of offline neuronal activity in the consolidation of spatial memory engrams

Yasunori Hayashi [20'+10']

Presenter affiliation: Kyoto University Graduate School of Medicine, Kyoto, Japan.

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Developmental critical periods for episodic memory

Paul Frankland [20'+10']

Presenter affiliation: Hospital for Sick Children, Toronto, Canada;
University of Toronto, Toronto, Canada.

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Area-specific cell plasticity by vision-dependent spatial cellular gradients

Xiang Gao, Chuying Zhou, Liming Tan

Presenter affiliation: Brain Cognition and Brain Disease Institute,
Shenzhen, China.

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Remodeling synaptic connections via engineered neuron-astrocyte interactions

Shin Heun Kim, Woojin Won, Gyu Hyun Kim, Yeon Hee Kook,
Seungkyu Son, Songhee Choi, Dong Yeop Kang, Mingu G. Park,
Young-Jin Choi, Seong Su Won, Juhee Shin, Yong Jeong, Kea Joo
Lee†, C. Justin Lee, Sangkyu Lee [10'+5']

Presenter affiliation: Institute for Basic Science (IBS), Daejeon, South
Korea.

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Regulation of adult neural stem cell establishment by FGF binding protein 3

Caiwei Li, Daichi Kawaguchi, Yukiko Gotoh [10'+5']

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

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Acute negative experiences promote memory generalization and mood vulnerability via a shared mPFC-BNST ensemble and molecular signature

Xin Cheng, Yan Zhao, Yubo Hu, Panwu Zhao, Jiale Chen, Xiaomeng
Bai, Yi Chen, Deshan Kong, Shuyu Zheng, Yuena Zheng, Yumeng
Wang, Yanni Zeng, Wei-Jye Lin, Xiaoqing Ye [10'+5']

Presenter affiliation: Sun Yat-sen University, Guangzhou, China.

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SESSION 6 **BRAIN DEVELOPMENT AND BRAIN DISORDERS**

Chairpersons: **Joseph Gleeson**, University of California, San Diego,
La Jolla, California, USA
 Chongyuan Luo, University of California, Los Angeles,
Los Angeles, California, USA

TMTC3 stabilizes LAMB1 to maintain basement membrane integrity in cortical development

Shufang Zhao, Xiaoxu Yang, Harry Vong, Adnan Halim, Guoliang Chai, Joseph G. Gleeson [20'+10']

Presenter affiliation: University of California San Diego, La Jolla, California.

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Cerebral organoids—Growing human brain tissue from stem cells to study development and disease

Juergen A. Knoblich [20'+10']

Presenter affiliation: Austrian Academy of Science, Vienna, Austria;
Medical University of Vienna, Vienna, Austria.

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Dissecting human brain development and neuropsychiatric disorders with single-cell and spatial 3D-multiomics

Matthew G. Heffel, Heng Xu, Katherine W. Eyring, Cuining Liu, Oier Pastor Alonso, Nasser Elhajjaoui, Xinzhe Li, Bogdan Pasaniuc, Jason Ernst, Eran Mukamel, Quan Zhu, Bogdan Bintu, Daniel H. Geschwind, Mercedes F. Paredes, Chongyuan Luo [20'+10']

Presenter affiliation: University of California Los Angeles, Los Angeles, California.

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Break

Looking at glioblastoma through the lens of developmental and circuit neurobiology

Hongjun Song [20'+10']

Presenter affiliation: University of Pennsylvania, Philadelphia, Pennsylvania.

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Pathological aggression in mice after repeated experience of aggression—Changes in brain immunity

Anastasia Mutovina [10'+5']

Presenter affiliation: Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia; Novosibirsk State University, Novosibirsk, Russia.

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The distinct functions of autophagy genes FIP200 and ATG14 in postnatal brain development

Chenran Wang [10'+5']

Presenter affiliation: The Ohio State University, Columbus, Ohio. 71

Spatially targeted suppression of seizures using sonogenetics

Quanxiang Xian, Danni Li, Lei Sun [10'+5']

Presenter affiliation: The Hong Kong Polytechnic University, Hong Kong, China. 72

Social-isolation induced binge-like eating modulates anxiety and depression behaviors via a hypothalamic projecting circuit

Jing Cui, Jie Yu, Yuchu Liu, Ji-an Wei, Li Zhang [10'+5']

Presenter affiliation: GHM Institute of CNS Regeneration, Guangzhou, China. 73

THURSDAY, September 11—2:00 PM

SESSION 7 NEURAL CIRCUITS AND BEHAVIOR

Chairpersons: **Yang Dan**, Shenzhen Medical Academy of Research and Translation, Shenzhen, China

Bo Li, Westlake University, Hangzhou, China

What is sleep for?

Yang Dan [20'+10']

Presenter affiliation: Shenzhen Medical Academy of Research and Translation, Shenzhen, China. 74

Illuminating causal links between neural circuit activity and behavior

Michael Hausser [20'+10']

Presenter affiliation: HKU, Hong Kong, China; UCL, London, United Kingdom. 75

Dissecting the neural circuitry underlying motivated behaviors

Bo Li [20'+10']

Presenter affiliation: Westlake University, Hangzhou, China. 76

Break

Modulation of PMv^{DAT} cells during aggression development persistently alters social behaviour through changes in an upstream social brain circuit

Laura Heikkinen, Debora Masini, Liam Moran, Nancy Xu, Christian Broberger [10'+5']

Presenter affiliation: Stockholm University, Stockholm, Sweden; Karolinska Institutet, Stockholm, Sweden.

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DeepEcoHAB—A machine learning based system for high-throughput behavioral phenotyping of social groups of laboratory animals

Marcin A. Lipiec, Konrad Danielewski, Jadwiga Zymer, Ewelina Knapska [10'+5']

Presenter affiliation: Nencki Institute of Experimental Biology, Warsaw, Poland.

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All-optical interrogation of neural and astrocytic regulation of hunting behavior in larval zebrafish

Guangnan Tian, Gewei Yan, Thomas Ka Chung Lam, Kenny Kang Yuen Chen, Kai Fu, Jianan Y. Qu, Julie L. Semmelhack [10'+5']

Presenter affiliation: The Hong Kong University of Science and Technology, Hong Kong S.A.R., China.

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Robust and ultrabright chemical labeling enables rapid neural connectivity profiling in large tissue samples

Shilin Zhong, Xiaoting Zhang, Xinwei Gao, Qingchun Guo, Minmin Luo, Rui Lin [10'+5']

Presenter affiliation: National Institute of Biological Sciences (NIBS), Beijing, Beijing, China.

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THURSDAY, September 11—5:00 PM

COCKTAILS and BANQUET

SESSION 8 **NEUROBIOLOGY OF BRAIN DISORDERS AND AGING**

Chairpersons: **Joseph Ecker**, The Salk Institute, La Jolla, California, USA
 Hannah Monyer, Heidelberg University and German Cancer Research Center (DKFZ), Heidelberg, Germany

GABAergic projection neurons—Powerful but vulnerable

Hannah Monyer [20'+10']

Presenter affiliation: Medical Faculty of Heidelberg University and German Cancer Research Center (DKFZ), Heidelberg, Germany. 81

Epigenomic remodeling in the aging mouse brain

Qiurui Zeng, Wei Tian, Amit Klein, Anna Bartlett, Hanqing Liu, Joseph Nery, Rosa G. Castanon, Chumo Chen, Yuru Song, Wenliang Wang, Wubin Ding, Huaming Chen, William Owens, Zhanghao Wu, Maria L. Amaral, Bing Ren, Margarita Behrens, Joseph R. Ecker [20'+10']

Presenter affiliation: The Salk Institute, La Jolla, California. 82

Patho-mechanism of eIF3F-associated neurodevelopmental disorder MRT67

Dan Su, Fajin Li, Luhao Yang, Dieter A. Wolf [10'+5']

Presenter affiliation: Technical University of Munich, Munich, Germany. 83

Break

Retrograde signaling as a trigger for TDP-43 mislocalization and motor neuron degeneration in ALS

Ruilei Cheng, Tal G. Pery, Eran Perlson [10'+5']

Presenter affiliation: Tel Aviv University, Tel Aviv, Israel. 84

Multiscale heterogeneous brain morphology of autism with hierarchical Bayesian regression normative modeling

Makliya Mamat, Yiyong Chen, Lin Li [10'+5']

Presenter affiliation: School of Basic Medical Sciences, Health Science Center, Ningbo, China. 85

Human models on a chip—Dissecting E/I balance in syndromic autism spectrum disorders

Maria Pascual-Garcia, Carolina Nunes, Philipp Hornauer, Linda Kaupp, Elias Hefti, Eva Harde, Stormy Chamberlain, Marcos R. Costa, Andreas Hierlemann, Manuel Schröter [10'+5']

Presenter affiliation: ETH Zurich, Basel, Switzerland.

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A single-nucleus atlas of genetic and epigenetic landscapes in Parkinson's disease midbrain

Xinran Song, Anna Diacofotaki, Bernard Thienpont [10'+5']

Presenter affiliation: KU Leuven, Leuven, Belgium.

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