

Abstracts of papers presented
at the 2026 Cold Spring Harbor Asia Conference
Awaji, Japan

ALZHEIMER'S DISEASE AND RELATED DISORDERS: FUNDAMENTALS & TREATMENTS

June 21–June 25, 2026

Arranged by

David Holtzman, *Washington University in St. Louis*
Takeshi Iwatsubo, *National Institute of Neuroscience*
Yueming Li, *Memorial Sloan-Kettering Cancer Center*
Yong Shen, *University of Science and Technology of China*



Cold Spring Harbor Conferences Asia
Cold Spring Harbor Laboratory



**ALZHEIMER'S DISEASE AND RELATED DISORDERS:
FUNDAMENTALS & TREATMENTS**

Awaji, Japan

Sunday, June 21 – Thursday, June 25, 2026

Sunday	7:00 pm	1 Keynote Session
Monday	9:00 am	2 Adaptive and Innate Immunity I
Monday	10:40 am	3 Adaptive and Innate Immunity II
Monday	12:00 pm	Luncheon Seminar <i>Sponsored by Eisai</i>
Monday	2:00 pm	4 Genetics, Biomarkers and Diagnosis I
Monday	3:20 pm	5 Genetics, Biomarkers and Diagnosis II
Monday	7:00 pm	Poster Session & drinks
Tuesday	9:00 am	6 Glial Communication
Tuesday	10:40 am	7 Lysosomal Regulation
Tuesday	1:30 pm	Excursion*
Tuesday	8:00 pm	8 Adaptive and Innate Immunity III
Wednesday	9:00 am	9 Protection and Resilience
Wednesday	10:20 am	10 Novel Mechanisms and Models
Wednesday	1:20 pm	11 Short Talks I
Wednesday	3:00 pm	12 Short Talks II
Wednesday	4:20 pm	Poster Session & drinks
Wednesday	6:00 pm	<i>Cocktails and Banquet</i>
Thursday		Departure

Awaji Yumebutai Conference Center

Meeting venue: Main Hall, 2nd floor of the Conference Center

Poster session: B1F Lobby

CSHA office: Room 202

Breakfast*: Cocolare, 2nd floor of Grand Nikko Awaji

Dinner & Lunch:

6/21 (Sun):	2F Reception Hall B	Welcome Reception
6/22 (Mon):	2F Main Hall	Luncheon Seminar
	B1F Event Hall	Dinner
6/23 (Tue):	B1F Event Hall	Lunch/Dinner
6/24 (Wed):	B1F Event Hall	Lunch

Cocktails: Cielo, 1st floor of Grand Nikko Awaji

Banquet: Stella, 1st floor of Grand Nikko Awaji

*Only available for guests staying at Grand Nikko Awaji

#Optional – requires sign up

PROGRAM

SUNDAY, June 21—7:00 PM

SESSION 1 KEYNOTE SESSION

Introduction by: Yueming Li, Memorial Sloan Kettering Cancer Center,
New York, New York, USA

Alzheimer's disease—From genetics to models and therapeutic development

Rudolph E. Tanzi [35'+10']

Presenter affiliation: Harvard Medical School, Boston, Massachusetts. 1

Introduction by: David Holtzman, Washington University School of Medicine,
St. Louis, Missouri, USA

Integrative multi-omic data analysis and human stem cell approach to understand dementia pathogenesis

Li-Huei Tsai [35'+10']

Presenter affiliation: Massachusetts Institute of Technology,
Cambridge, Massachusetts. 2

MONDAY, June 22—9:00 AM

SESSION 2 ADAPTIVE AND INNATE IMMUNITY I

Chairperson: Jonathan Kipnis, Washington University in St Louis,
St Louis, Missouri, USA

Peripheral CXCR3 blockade uncouples T cell infiltration and neurodegeneration from tau accumulation in a mouse model of tauopathy

Joshua T. Emmerson, Hao Hu, Vivek Savani, Peter Lin, Prabal Sharma, Mina Rhode, Zhe Liu, Yongyi Li, Megan E. Bosch, Wade Self, Javier Remolina Serrano, Xin Bao, Carla M. Yuede, Mehdi Jorfi, Rudolph E. Tanzi, Jason D. Ulrich, David M. Holtzman [20'+5']

Presenter affiliation: Washington University, St. Louis, Missouri. 3

CXCL14 promotes clearance of amyloid plaque in Alzheimer's disease via s astrocyte-microglia crosstalk

Joseph A. Pathoulas, John Zhou, Akihiro Ishii, Shaoming Sang, Riqiang Yan [20'+5']

Presenter affiliation: University of Connecticut School of Medicine, Farmington, Connecticut.

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Dissecting neuroimmune crosstalk in neurodegeneration

Li Gan [20'+5']

Presenter affiliation: Weill Cornell Medicine, New York, New York.

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MONDAY, June 22—10:40 AM

SESSION 3 ADAPTIVE AND INNATE IMMUNITY II

Chairperson: **Li Gan**, Weill Cornell Medicine, New York, New York, USA

Transcriptional circuitry underlying amyloid-responsive microglia phenotypes

Johannes Schlachetzki, Jonathan Hasselmann, Dan Zhang, Nathanael J. Spann, Kilian L. Kleemann, Xiaoming Zhang, Payam Saisan, Matthew Blurton-Jones, Alexi Nott, Sara Brin Rosenthal, Oleg Butovsky, Christopher K. Glass [20'+5']

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

6

Anatomy of brain-immune interactions

Jonathan Kipnis [20'+5']

Presenter affiliation: Washington University in St Louis, St Louis, Missouri.

7

Modulation of A β amyloidogenesis and microglial phenotypes by perturbations of the gut microbiome

Sangram Sisodia, Piyali Saha, David Holtzman, Megan Bosch, Rudolph Tanzi, Can Zhang [20'+5']

Presenter affiliation: Univ of Chicago, Chicago, Illinois.

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MONDAY, June 22—12:00 PM

LUNCHEON SEMINAR

Sponsored by **Eisai**

Chairperson: **Takeshi Iwatsubo**, National Institute of Neuroscience,
Tokyo, Japan

The introduction of anti-amyloid therapy in Japan

Atsushi Iwata

Presenter affiliation: Tokyo Metropolitan Geriatric Medical Center
Hospital, Tokyo, Japan.

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MONDAY, June 22—2:00 PM

SESSION 4 GENETICS, BIOMARKS AND DIAGNOSIS I

Chairperson: **Rudolph Tanzi**, Massachusetts General Hospital,
Harvard Medical School, Boston, Massachusetts, USA

**The roles of biomarkers and PET imaging in the early intervention
of Alzheimer's disease**

Takeshi Iwatsubo [20'+5']

Presenter affiliation: National Center of Neurology and Psychiatry,
Tokyo, Japan.

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**Implications of polygenic risk scores for genetic risk and
molecular stratification in Alzheimer's disease**

Takeshi Ikeuchi [20'+5']

Presenter affiliation: Niigata University, Niigata, Japan.

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MONDAY, June 22—3:20 PM

SESSION 5 GENETICS, BIOMARKS AND DIAGNOSIS II

Chairperson: Takeshi Ikeuchi, Niigata University, Niigata, Japan

Tau biomarkers and kinetics in primary tauopathies

Chihiro Sato, Kanta Horie, Rama Koppiseti, Bruce W. Patterson, Donald L. Elbert, Salvatore Spina, Lawren VandeVrede, Takumi Nakamura, Ross W. Paterson, Nupur Ghoshal, Adam L. Boxer, Randall J. Bateman [20'+5']

Presenter affiliation: Washington University School of Medicine, St.Louis, Missouri.

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MTBR-tau243 is a specific fluid biomarker to identify 3R/4R-mixed tauopathies

Kanta Horie, Rama K. Koppiseti, Salvatore Spina, Lawren VandeVrede, Ross W. Paterson, Nupur Ghoshal, Adam L. Boxer, Randall J. Bateman, Chihiro Sato [20'+5']

Presenter affiliation: Washington University School of Medicine, St. Louis, Missouri; Eisai Inc., Nutley, New Jersey.

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Multimodal biomarkers for cerebral amyloid angiopathy—From circulating proteomics to PET-based differentiation from Alzheimer's disease

Xin Cheng, Ya Su, Jiajie Xu, Chuantao Zuo, Hsin-Hsi Tsai [20'+5']

Presenter affiliation: Huashan Hospital Fudan University, Shanghai, China.

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MONDAY, June 22—7:00 PM

POSTER SESSION

and Drinks

Striatal cingulate atrophy and sleep spindle and slow wave dynamics in mild cognitive impairment—Potential early biomarkers of Alzheimer's disease

Akansha Singh, Gauri Shankar, Senthil Kumaran, Nasreen Akhtar
Presenter affiliation: All India Institute of Medical Sciences, New Delhi, India.

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Data-driven plasma biomarker profiles predict dementia conversion in mild cognitive impairment <u>Md Ashrafal Alam</u> , Kensaku Kasuga Presenter affiliation: National Center for Geriatrics and Gerontology, Obu, Aichi, Japan.	16
Multi-target modulation of Alzheimer's disease and atherosclerosis—A transcriptomics-guided <i>in silico</i> study of medicinal mushroom bioactives via the heart-brain axis <u>Gracia Amadea</u> , Legie Mae Soriano, Kumju Youn, Mira Jun Presenter affiliation: The Graduate School of Dong-A University, Busan, South Korea.	17
CD63-associated amyloid-β drives Alzheimer's disease pathology in brain-immune assembloids via exosome-mediated Aβ deposition <u>Soonbong Baek</u> , Jaemyung Jang, Seungeun Yeo, Hyun Jin Jung, Youngshik Choe Presenter affiliation: Korea Brain Research Institute, Daegu, South Korea.	18
Ectodermal-neural cortex 1 modulates tau clearance, gliosis and neuronal death in Alzheimer's disease <u>Marie-Amandine Bonte</u> , Tae Yeon Kim, Sheeny Vo, Nicholas Sweeney, Min Wu, Ranee Zara Monsanto, John R. Dickson, Yong-Keun Jung, Douglas W. Scharre, Lawrence S. Honig, Geidy E. Serrano, Thomas G. Beach, Gail V. Johnson, Jeff Kuret, Bradley T. Hyman, Ralph A. Nixon, Hongjun Fu Presenter affiliation: The Ohio State University, Columbus, Ohio.	19
Non-mutated human tau stimulates Alzheimer's disease-relevant neurodegeneration in a microglia-dependent manner Ethan Roy, Qiang Wang, Kexin Huang, Xiaobo Zhou, <u>Wej Cao</u> Presenter affiliation: University of Texas Health Science Center at Houston, Houston, Texas.	20
Neuroprotective potential of a brain-targeted hyaluronic acid–17β-estradiol conjugate (HA-E2) in postmenopausal Alzheimer's disease models <u>Tzu Chao</u> Presenter affiliation: National Chung Hsing University, Taichung, Taiwan.	21

Intrahippocampal delivery of hyperphosphorylated human tau oligomers induces neurodegeneration in non-transgenic wildtype mice

Hong-Ru Chen

Presenter affiliation: National Yang Ming Chiao Tung University, Taipei, Taiwan.

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Ketone body β -hydroxybutyrate restores neuronal Tau proteostasis via ketolysis-independent mechanism

Leigh-Ana Rossitto, Jamie Foo, Julia Di Silvestri, Leanne Lehmann, Melina Brunelli, Yuhang Nie, Daniel Munoz-Mayorga, Qiang Xiao, Anna Dai-Liu, Suborno Jati, Meghan Rossi, Richard Daneman, Jeffery Kelly, John Newman, Sam Myers, Xu Chen

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

23

Elucidating the pathological role of phosphatase, INPP5D, in regulating microglial functions under Alzheimer disease conditions

Yung-Ning Chu, Sho Takatori, Taisuke Tomita

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

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Exploiting senescence pathways for early detection and therapeutic intervention in Alzheimer's disease

Lina Cui

Presenter affiliation: University of Florida, Gainesville, Florida.

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Systematic analysis of rare missense ApoE variants and identification of an ApoE7-specific enhancement of A β oligomer amplification

Nobuhiro Fujikake, Maiko Tanaka, Ai Obinata, Takeshi Ikeuchi, Akinori Miyashita, Tadafumi Hashimoto

Presenter affiliation: National Center of Neurology and Psychiatry (NCNP), Tokyo, Japan.

26

Bioactive macromolecules from animal-derived toxins and lectins as novel modulators of amyloid- β metabolism

Eugene Futai, Zhenguang Wang, Hajime Kawasaki, Rina Sakakibara, Mio Shiina, Nachi Suzuki, Zhihan Yang, Kaede Goto, Atsushi Tsugita, Shinichi Sato, Taisuke Tomita, Takeshi Yokoyama, Yoshikazu Tanaka, Khadija Daoudi, Masafumi Hidaka, Tomohisa Ogawa

Presenter affiliation: Tohoku University, Sendai, Miyagi, Japan.

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Neuroprotective function of astrocyte p75NTR in Alzheimer's disease through regulation of cholesterol metabolism

Xueyan Han

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

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Single-nucleus RNA-sequencing of human post-mortem brain tissues reveals white matter-specific microglial transformation in primary microgliopathy

Norikazu Hara, Mari Tada, Hideomi Hamasaki, Mai Hasegawa, Akinori Miyashita, Masataka Kikuchi, Hiroyuki Hatsuta, Masaki Takao, Mari Yoshida, Daita Kaneda, Akiyoshi Kakita, Takeshi Ikeuchi

Presenter affiliation: Niigata University, Niigata, Japan.

29

CCL3 derived from plaque-associated microglia regulates amyloid pathology in an Alzheimer's disease mouse model

Masanori Hijioka, Ryohei Uenishi, Rinna Kawata, Tatsuya Manabe, Takashi Saito

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

30

Deep mutational scanning reveals amyotrophic lateral sclerosis protective SOD1 variant

Liang Hobma, Mariko Okada, Yoshihisa Watanabe, Atsushi Hoshino, Satoaki Matoba

Presenter affiliation: Kyoto Prefectural University of Medicine, Kyoto, Japan.

31

Photo-oxygenation reduces intracellular tau amyloid in the brain of tau model mice

Yukiko Hori, Takanobu Suzuki, Taka Sawazaki, Hanako Nakagawa, Norikazu Hara, Yutaka Tatenuma, Mai Hasegawa, Akinori Miyashita, Takeshi Ikeuchi, Makoto Higuchi, Youhei Sohma, Motomu Kanai, Taisuke Tomita

Presenter affiliation: Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, Japan.

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E22G A β 40 fibril structure and kinetics illuminate how cotton wool plaque can be formed in Arctic familial Alzheimer's

Mohammad Tehrani, Isamu Matsuda, Atsushi Yamagata, Yu Kodama, Tatsuya Matsunaga, Kiminori Toyooka, Mayuko Sato, Dan McElheny, Mikako Shirouzu, Yoshitaka Ishii

Presenter affiliation: Institute of Science Tokyo, Yokohama, Japan.

33

Identification of biomolecules associated with amyloid beta oligomers in APP knock-in mouse brain

Risa Ito, Toshiya Ibaraki, Jo Kamada, Chihiro Hosoi, Kaori Tsukakoshi, Kazunori Ikebukuro

Presenter affiliation: Tokyo University of Agriculture and Technology, Koganei, Tokyo, Japan.

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GLUT5 controls microglial metabolic programs to promote neuroprotection in Alzheimer's disease

Seungeun Yeo, Jaemyung Jang, Soonbong Baek, Hyun Jin Jung, Su-Kyeong Hwang, Youngshik Choe

Presenter affiliation: Korea Brain Research Institute, Daegu, South Korea.

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Phenotypic analysis of *Presenilin 1* mutant and aged common marmosets

Daisuke Joho, Kenya Sato, Wakako Kumita, Naomi Mihira, Tetsushi Sakuma, Takashi Yamamoto, Masaki Kakeyama, Misako Komatsu, Erika Sasaki, Takaomi C. Saido, Hiroki Sasaguri

Presenter affiliation: RIKEN Center for Brain Science, Wako, Japan.

36

Live imaging of endogenous tau in human neurons reveals microtubule-dependent transport and its disruption by a tauopathy-associated mutation

Naoki Kato, Chisato Oyama, Tomoya Uchida, Hideyuki Okano, Hiroko Bannai, Sumihiro Maeda

Presenter affiliation: Waseda University, Tokyo, Japan.

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Tetraploid cerebral organoids as a model for neurodegenerative diseases

Tomoko Kato-Inui, Keiko Moriya-Ito, Ayako Yokokawa, Takashi Nonaka, Chiaki Ohtaka-Maruyama, Yuichiro Miyaoka

Presenter affiliation: Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan.

38

Polygenic risk stratification reveals Alzheimer's disease subtypes in Japanese populations

Masataka Kikuchi, Akinori Miyashita, Yu Hirota, Norikazu Hara, Mai Hasegawa, Yasufumi Sakakibara, Michiko Sekiya, Yuko Saito, Shigeo Murayama, Koichi Iijima, Takeshi Ikeuchi

Presenter affiliation: Niigata University, Niigata, Japan.

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Renal microvascular dysfunction and cerebral small vessel disease—Implications for neurodegeneration

Jl Young Kim

Presenter affiliation: Seoul National University College of Medicine, Seoul, South Korea; Seoul National University Hospital, Seoul, South Korea.

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Excitatory neuronal PLCG2 regulates tau pathology, gliosis, and cell death via the autophagy-lysosomal pathway

Tae Yeon Kim, Nicholas Sweeney, Sheeny Vo, Qi Guo, Marie-Amandine Bonte, Diana A. Ingram, Yuzhou Chang, Hiroyasu Ogawa, Tomohiro Kurosaki, Geidy E. Serrano, Thomas G. Beach, Qin Ma, Hongjun Fu

Presenter affiliation: Ohio State University, Columbus, Ohio.

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A novel Alzheimer's disease mouse model exhibiting amyloid- β and tau co-pathology

Taeko Kimura, Lisa Tatsumi, Megumu Takahashi, Hiroyuki Hioki, Taisuke Tomita¹

Presenter affiliation: Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, Japan.

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Involvement of microglia in the production and regulation of APP669-711, an Alzheimer plasma biomarker

Honoka Kobayashi, Naoki Kaneko, Ryota Takahashi, Sadanori Sekiya, Hideomi Hamasaki, Mari Tada, Shinichi Iwamoto, Koichi Tanaka, Taisuke Tomita

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

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Development of a mouse model for studying amyloid- β pathology in sporadic Alzheimer's disease

Yukiyasu Komaki, Hirokazu Uchigami, Maiko Tanaka, Takeshi Iwatsubo, Tadafumi Hashimoto

Presenter affiliation: National Center of Neurology and Psychiatry, Kodaira, Japan; Institute of Science Tokyo, Tokyo, Japan.

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A race against tau—Stage-dependent kinetics of lecanemab and donanemab in early Alzheimer's disease

Yuki Kujuro, Marina Saito, Manami Maruko, Hidenori Hattori

Presenter affiliation: Tachikawa Hospital, Tokyo, Japan.

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- Clinical optimization of photo-oxygenation treatment for tauopathy via oral administration of photocatalyst Cat O**
Mai Kuriyama, Norio Suzuki, Eri Nakashima, Mana Namai, Takanoobu Suzuki, Taka Sawazaki, Youhei Sohma, Hiroyuki Kusahara, Motomu Kanai, Taisuke Tomita, Yukiko Hori
 Presenter affiliation: The University of Tokyo, Tokyo, Japan. 46
- Fucoxanthin attenuates pE3-A β pathology via modulation of amyloidogenic processing and glutaminyl cyclase in 5XFAD mice**
Nayoung Lee, Mira Jun
 Presenter affiliation: The Graduate School of Dong-A University, Busan, South Korea. 47
- Peptides alleviate cognitive impairment by inhibiting and disassembling amyloid- β aggregates in Alzheimer's disease**
 Lu Geng, Wenqing Gao, Jixi Li
 Presenter affiliation: Fudan University, Shanghai, China. 48
- A photo-switchable neurodegeneration platform for controlled neuronal degeneration and functional analysis in *Drosophila* brain**
 Yi-Han Kuo, Pei-Yi Bai, Han-Hsuan Liu
 Presenter affiliation: National Health Research Institutes, Zhunan, Taiwan. 49
- Untangling the underlying mechanism behind CSF p-tau increase in Alzheimer's disease**
Tatsuya Manabe, Takuto Iida, Ryohei Uenishi, Takashi Saito
 Presenter affiliation: The University of Tokyo, Tokyo, Japan. 50
- Modeling and drug screening for Niemann-Pick disease type C using neurons directly converted from urine-derived cells**
Keita Matsumoto, Naoki Kato, Maika Itsuno, Hideyuki Okano, Sumihiro Maeda
 Presenter affiliation: Keio University School of Medicine, Tokyo, Japan. 51
- Analysis of CASP8 GGGAGA repeat sequence patterns in a Japanese dementia cohort**
Koujin Miura, Kohji Mori, Tesshin Miyamoto, Ryota Uozumi, Yuki Aoki, Shizuko Kondo, Yuya Kawabe, Shoshin Akamine, Shinji Tagami, Shiho Gotoh, Manabu Ikeda
 Presenter affiliation: Osaka University Graduate School of Medicine, Osaka, Japan. 52

Association of APOE missense variants with Alzheimer's disease in the Japanese population

Akinori Miyashita, Ai Obinata, Norikazu Hara, Tamao Tsukie, Mai Hasegawa, Takanobu Ishiguro, Masataka Kikuchi, Kensaku Kasuga, Takeshi Ikeuchi

Presenter affiliation: Brain Research Institute, Niigata University, Niigata, Japan.

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Chronic sleep fragmentation without sleep loss accelerates prodromal Parkinson's disease progression in a mouse model

Masayuki Miyazaki, Hiroko Yagihara, Sayaka Higo-Yamamoto, Nanako Itoh, Hiromi Fujita, Koyomi Miyazaki, Hodaka Yamakado, Keiji Wada, Eiko N. Minakawa

Presenter affiliation: National Institute of Neuroscience (NIN), National Center of Neurology and Psychiatry (NCNP), Tokyo, Japan; Graduate School of Medical and Dental Sciences, Institute of Science Tokyo, Tokyo, Japan.

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RPL38 regulates 60S ribosomal subunit homeostasis to control C9ORF72 RAN translation

Kohji Mori, Shiho Gotoh, Shizuko Kondo, Yuzo Fujino, Ryota Uozumi, Koujin Miura, Yuki Aoki, Shinji Tagami, Shoshin Akamine, Tesshin Miyamoto, Yoshitaka Nagai, Manabu Ikeda

Presenter affiliation: The University of Osaka, Suita, Japan.

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Early dopamine disruption in the entorhinal cortex of a knock-in model of Alzheimer's disease

Tatsuki Nakagawa, Jiayun L. Xie, Kiwon Park, Kai Cao, Marjan Savadkohighodjanaki, Yutian J. Zhang, Heechul Jun, Ayana Ichii, Jason Y. Lee, Shogo Soma, Yasmeen K. Medhat, Takaomi C. Saido, Kei M. Igarashi

Presenter affiliation: University of California, Irvine, Irvine, California; Tohoku University, Sendai, Japan.

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Divergent extracellular tau and proteomic dynamics in brain interstitial fluid and cerebrospinal fluid in a tauopathy mouse model

Itaru Nishida, Asami Sakamoto, Takeshi Iwatsubo, Kaoru Yamada

Presenter affiliation: the University of Tokyo Hospital, Tokyo, Japan.

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Acoustic speech features as digital biomarkers for mild cognitive impairment—A statistically rigorous classification framework

Aejin Lee, Min Sook Park, Chorong Oh

Presenter affiliation: University of Kentucky, Lexington, Kentucky.

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<p>Comprehensive mutational mapping identifies G68E as a protective suppressor of α synuclein aggregation <u>Mariko Okada</u>, Sho Hashimoto, Liang Hobma, Yoshihisa Watanabe, Satoaki Matoba, Atsushi Hoshino Presenter affiliation: Kyoto Prefectural University of Medicine, Kyoto, Japan.</p>	59
<p>Novel Tau11i exhibits pathological biochemical properties and is enriched in Alzheimer's disease brains and human plasma <u>Chin-Tong Ong</u>, Yow-Yong Tan, Chao-Yong Leow, Ching-Thong Choo Presenter affiliation: Temasek Life Sciences Lab, Singapore.</p>	60
<p>Age dependent Responses to Aβ in Inducible APP Mice Mitsuru Shinohara, Satsuki Miyazaki, Kaori Kawai, Ghupurjan Gheni, Kensaku Kasuga, Daisuke Okuzaki, Akio Fukumori, Hironori Ueda, <u>Naoyuki Sato</u> Presenter affiliation: National Center for Geriatrics and Gerontology, Obu, Japan; The University of Osaka, Suita, Japan.</p>	61
<p>Engineering protective APP genetics via in vivo genome editing suppresses amyloid pathology <u>Sho Shimohama</u>, Hiroki Sasaguri, Jin Nakahara, Tomohiro Hino, Atsushi Hoshino Presenter affiliation: RIKEN Center for Brain Science, Wako, Saitama, Japan; Keio University School of Medicine, Tokyo, Japan.</p>	62
<p>Pathological cleavage of Drebrin A in Alzheimer's disease—A novel biomarker for cognitive decline and therapeutic target <u>Tomoaki Shirao</u>, Noriko Koganezawa, Yuko Sekino, Noriko Shoji Presenter affiliation: AlzMed, Inc., Tokyo, Japan.</p>	63
<p>Engineering precision CNS delivery—Modular gene therapy platforms for neurodegenerative disease Chanchal Sharma, Ankita Chowdhury, <u>Sheena N. Smith</u> Presenter affiliation: Nanyang Technological University, Singapore.</p>	64
<p>N-acetyl-L-leucine restores lysosomal homeostasis in neurodegenerative disease models <u>Pingping Song</u>, Dimitri Krainc Presenter affiliation: Northwestern University Feinberg School of Medicine, Chicago, Illinois.</p>	65

Microglia-specific *Inpp5d* deficiency alters amyloid plaque qualities and ameliorates neurotoxicity in Alzheimer disease model mice

Sho Takatori, Aika Akahori, Junko Sasaki, Takehiko Sasaki, Taisuke Tomita

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

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Blood extracellular vesicles contribute to the exercise-mediated suppression of brain A β pathology in the *App^{NL-G-F}* knockin mouse model of Alzheimer's disease

Toshihide Takeuchi, Akiko Takeda, Eiko N. Minakawa, Noriko Tanaka, Yoshitaka Nagai

Presenter affiliation: Kindai University, Osaka, Japan.

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Iron transport via SLC22A17 controls oligodendrocyte differentiation and remyelination in the CNS

Lei Tao, Long Teng, Yaqi Wang, Ligong Chen

Presenter affiliation: Tsinghua University, Beijing, China.

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Addbody-based Ly6c1-guided anti-A β antibody delivery modulates A β pathology and cerebrovascular responses in APP transgenic mice

Hirokazu Uchigami, Hiromi Fujita, Hisae Kikuchi, Kyoko Matoba, Hiroaki Suga, Takeshi Iwatsubo, Junichi Takagi, Tadafumi Hashimoto

Presenter affiliation: National Center of Neurology and Psychiatry, Kodaira-shi, Japan.

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Chronic AMPAR inhibition normalizes aberrant AMPAR inward rectification and attenuates amyloid pathology in J20 mice

Sakiho Ueda, Chika Honjo, Mitsuharu Midorikawa, Shiyu Sakuraba, Yuji Fukushima, Takafumi Wada, Motoki Akahori, Riki Matsumoto, Ryosuke Takahashi, Ayae Kinoshita, Akira Kuzuya

Presenter affiliation: Kyoto University Hospital, Kyoto, Japan.

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Dietary restriction improves cognitive and renal function in CKD Mice

Pei-Yu Wang, Jin-Wei Yeh, Cheng-Wei Lee

Presenter affiliation: National Taiwan University, Taipei, Taiwan.

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The role of SLC15A3 in microglial activation and myelin regeneration in demyelinating diseases

Yaqi Wang, Chen Li

Presenter affiliation: Tsinghua University, Beijing, China.

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Establishment of an evaluation system for the impact of A β on pathological Tau propagation using human iPS cell-derived Assembloid

Zeping Wang, Naoko Numata, Naoki Kato, Hiroko Bannai, Sumihiro Maeda

Presenter affiliation: Waseda University, School of Advanced Science and Engineering, Tokyo, Japan.

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Novel biochemical approach to study synaptic functions of presenilins

Hirotaaka Watanabe, Naoshi Dohmae, Tetsuya Takano, Hideyuki Okano

Presenter affiliation: Fujita Health University, Toyoake, Japan; Keio University, Kawasaki, Japan.

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High-frequency and high-severity infection patterns show a dose-response association with increased dementia risk in the elderly

Elaine He Xu, Yueqing Wang, Jiawen Ke, Xiaoxuan Zhang, Jiahui Wang, Ling Wang, Yangqin Xun, Ruitai Shao, Zuolin Lu

Presenter affiliation: Chinese Academy of Medical Sciences & Peking Union Medical College, Beijing, China; Xuanwu Hospital, Capital Medical University, National Center for Neurological Disorders, Beijing, China.

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Modeling ancestry-associated APOE4 effects using Japanese APOE-edited human iPS cells

Yuga Yasuda, Alexandre Pelletier, Diana Cifuentes, Mehbubul Hasan AL Quvi, Nishat A. Bristy, Clara Li, Md. Shamsuzzoha Bayzid, Julia TCW, Yuichiro Miyaoka

Presenter affiliation: Tokyo Met. Inst. of Med. Sci., Tokyo, Japan; Science Tokyo, Tokyo, Japan.

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A cell therapy approach to restore microglial Trem2 function in a mouse model of Alzheimer's disease

Yongjin Yoo

Presenter affiliation: Korea University College of Medicine, Seoul, South Korea.

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Development of NLRP3 PET radiotracers for Alzheimer's disease

Yiming Xu, Yulong Xu, Can Zhang, Changning Wang, Shijun Zhang

Presenter affiliation: Virginia Commonwealth University, Richmond, Virginia.

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TUESDAY, June 23—9:00 AM

SESSION 6 GLIAL COMMUNICATION

Chairperson: **Takashi Saito**, The University of Tokyo, Tokyo, Japan

Glial cell-surface proteome profiling and CD44-OPN/SPP1 axis in Alzheimer's disease

Omar Pena-Ramos, Manasee Gedam, Xue Zhang, Chonghui Cheng, Junmin Peng, Hui Zheng [20'+5']

Presenter affiliation: Baylor College of Medicine, Houston, Texas. 79

A tale of two BINs—Neuronal and microglial BIN1 in Alzheimer's risk

Gopal Thinakaran [20'+5']

Presenter affiliation: Byrd Alzheimer's Institute, Tampa, Florida. 80

Deciphering genotype-specific glial interactions in Alzheimer's disease using iPSC-derived models and CRISPRi functional screening

Inhee Mook-Jung [20'+5']

Presenter affiliation: Seoul National University College of Medicine, Seoul, South Korea. 81

TUESDAY, June 23—10:40 AM

SESSION 7 LYSOSOMAL REGULATION

Chairperson: **Gopal Thinakaran**, University of South Florida, Tampa, Florida, USA

Current drugs that slow neurodegeneration and autophagy activators as neurodegenerative disease medicines going forward

Jeffery W. Kelly [20'+5']

Presenter affiliation: The Scripps Research Institute, La Jolla, California. 82

The role of mitochondria-lysosome contacts in health and disease

Dimitri Krainc [20'+5']

Presenter affiliation: Northwestern University, Chicago, Illinois. 83

Lysosome modulators—Development, mechanisms, and therapeutic opportunities

Yueming Li [20'+5']

Presenter affiliation: Memorial Sloan Kettering Cancer Center, New York, New York.

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Neurodegeneration risk variants promote lysosomal TMEM106B fibril accumulation

Leonard Petrucelli [20'+5']

Presenter affiliation: University of Miami Miller School of Medicine, Miami, Florida.

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TUESDAY, June 23—1:30 PM

Excursion

TUESDAY, June 23—8:00 PM

SESSION 8 ADAPTIVE AND INNATE IMMUNITY III

Chairperson: **Taisuke Tomita**, The University of Tokyo, Tokyo, Japan

Brain-immune communication in Alzheimer's disease

Xiaoying Chen [20'+5']

Presenter affiliation: Tsinghua University, Beijing, China.

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Role of glial responses and adaptive immune cells in mouse model of Alzheimer's disease

Takashi Saito [20'+5']

Presenter affiliation: The University of Tokyo, Tokyo, Japan

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WEDNESDAY, June 24—9:00 AM

SESSION 9 PROTECTION AND RESILIENCE

Chairperson: **Li-Huei Tsai**, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA

Protective mechanisms of *APOE2* and rare *APOE* variants

Guojun Bu [20'+5']

Presenter affiliation: The Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong, China.

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**Decoding cognitive resilience in preclinical Alzheimer's disease—
From biomarker trajectories to targeted lifestyle interventions**

Jianping Jia [20'+5']

Presenter affiliation: Xuanwu Hospital Capital Medical University, Beijing, China.

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WEDNESDAY, June 24—10:20 AM

SESSION 10 NOVEL MECHANISMS AND MODELS

Chairperson: **Guojun Bu**, Hong Kong University of Science and Technology, Hong Kong, China

Exploring the mechanism that links $A\beta$ and tau in Alzheimer's disease

Robert Vassar [20'+5']

Presenter affiliation: Northwestern University, Chicago, Illinois.

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A non-canonical *BACE1*-*SNATx* axis couples neuronal metabolism to excitotoxicity and cognitive decline

Yong Shen, Yuying Jing, Dongxu Wang, Lin Yi, Beizi Xing, Hongying Zhu, Zujun Wu, Xiaoli Yang, Sangram S. Sisodia, Zhengjiang Zhu, Wei Xiong [20'+5']

Presenter affiliation: University of Science and Technology of China, Hefei, China.

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The effect of endothelial FOXO1 on Alzheimer's disease

Chao Ni, Qinfen Chen, Han Zhu, Sipei Pan, Yun Zhang, Weihong Song [20'+5']

Presenter affiliation: The First Affiliated Hospital of Wenzhou Medical University, Wenzhou, China; Oujiang Laboratory, Wenzhou, China. 92

A rapid plaque-to-tangle mouse model using BBB-penetrant AAV-mediated tau induction on an APP knock-in background

Taisuke Tomita [20'+5']

Presenter affiliation: The University of Tokyo, Tokyo, Japan. 93

WEDNESDAY, June 24—1:20 PM

SESSION 11 SHORT TALKS I

Chairperson: **Yong Shen**, University of Science and Technology of China, Hefei, China

A neglected and atypical brain iron transporter SLC22A17 governing hippocampal neurogenesis

Ligong Chen, Tao Lei, Long Teng, Yaqi Wang [8'+2']

Presenter affiliation: Tsinghua University, Beijing, China. 94

Entorhinal cortex dysfunctions in Alzheimer's disease

Kei M. Igarashi [8'+2']

Presenter affiliation: Tohoku University, Sendai, Japan; University of California, Irvine, Irvine, California. 95

Dihydrotestosterone supplementation exacerbates tauopathy and microgliosis in P301S female mice

Daniel Munoz-Mayorga, Xinchun Lyu, Suborno Jati, Jibin Zhang, Leigh-Ana M. Rossitto, Yuren Tao, Shanshan Zhao, Enfu Hui, Alexander S. Kauffman, Bokai Zhu, Xu Chen [8'+2']

Presenter affiliation: University of California, San Diego, La Jolla, California. 96

Phospholipase C- γ 2 and tau processing in Alzheimer's disease

Tae Yeon Kim, Nicholas Sweeney, Sheeny Vo, Qi Guo, Marie-Amandine Bonte, Yuzhou Chang, Jean Paul Chadarevian, John R. Dickson, Min Wu, Hiroyasu Ogawa, Tomohiro Kurosaki, Geidy E. Serrano, Thomas G. Beach, Hayk Davtyan, Bradley T. Hyman, Mathew Blurton-Jones, Qin Ma, Hongjun Fu [8'+2']

Presenter affiliation: The Ohio State University, Columbus, Ohio. 97

Neuron-specific Mfn2 expression rescues mitochondrial dysfunction and neuroinflammation through alleviation of extracellular vesicle mediated neuronal mtDNA release in Alzheimer's disease models

Fanpeng Zhao, Lihua Peng, Jing Wang, Sandy Torres, Wenzhang Wang, Xiongwei Zhu [8'+2']

Presenter affiliation: Case Western Reserve University School of Medicine, Cleveland, Ohio.

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Clonally expanded microglia of peripheral origin are enriched in Alzheimer's disease brains and exhibit pro-inflammatory signatures

Liz Enyenihi, Mengyue Zheng, Jingtong Liu, Yingxi Yang, Maya Talukdar, Jordan Doman, Zinan Zhou, Beth Stevens, August Y. Huang, Christopher Walsh [8'+2']

Presenter affiliation: Boston Children's Hospital, Boston, Massachusetts; Harvard Medical School, Boston, Massachusetts; Broad Institute of MIT and Harvard, Cambridge, Massachusetts; Harvard-MIT MD/PhD Program, Boston, Massachusetts.

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Distinct tau filament folds drive tauopathy heterogeneity

Airi Tarutani, Masato Hasegawa [8'+2']

Presenter affiliation: Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan.

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Cryo-EM structures of tau filament from human brain

Chao Qi [8'+2']

Presenter affiliation: MRC Laboratory of Molecular Biology, Cambridge, UK.

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WEDNESDAY, June 24—3:00 PM

SESSION 12 SHORT TALKS II

Chairperson: **David Holtzman**, Washington University School of Medicine, St. Louis, Missouri, USA

A non-invasive, age-preserving platform for modeling neurodegenerative diseases using directly induced neurons derived from urine

Sumihiro Maeda, Keita Matsumoto, Yoshiaki Sato, Naoki Kato, Takashi Sasaki, Toshiki Takenouchi, Satoru Morimoto, Aki Shimozawa, Hirofumi Aoyagi, Kenjiro Kosaki, Yasumichi Arai, Takeshi Ikeuchi, Atsushi Iwata, Daisuke Itoh, Hideyuki Okano [8'+2']

Presenter affiliation: School of Medicine, Tokyo, Japan.

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- Oral administration of arginine suppresses A β pathology in the *App*^{NL-G-F} knock-in mouse model of Alzheimer's disease**
Yoshitaka Nagai, Kanako Fujii, Toshihide Takeuchi [8'+2']
 Presenter affiliation: Kindai University, Sakai, Japan. 103
- Neurostimulation target selection for Alzheimer's disease based on personalized large-scale brain dynamics modeling**
Mengni Zhou, Yanqing Dong, Jie Xiang [8'+2']
 Presenter affiliation: Taiyuan University of Technology, Taiyuan, China. 104
- Atlas of BBB-permeable plasma proteins reveals early impairment of a body-to-brain neuroprotective axis in Alzheimer's disease**
Haoyue Zhou, Jason C. Maynard, Alexander J. Pennacchio, Xi Liu, Lei Yao, Mina Negahban, Zimo Zhang, Bella Ding, Jane Oberhauser, Xinlan Wen, Myung Jin Yang, Fionna Huang, Sahith Doddipalli, Nicholas T. Seyfried, Tom H. Cheung, Tara E. Tracy, Alma L. Burlingame, Andrew C. Yang [8'+2']
 Presenter affiliation: J. David Gladstone, San Francisco, California. 105
- AQP4-mediated glymphatic enhancement promotes tau clearance and mitigates neurodegeneration in a tauopathy model**
Kaoru Yamada, Kazuhisa Ishida, Asami Sakamoto, Hitoshi Shimada, Masaki Watanabe, Masato Shimojo, Hironaka Igarashi, Takeshi Iwatsubo [8'+2']
 Presenter affiliation: The University of Tokyo, Tokyo, Japan. 106
- Repairing synapse function with a KIBRA-derived peptide to reverse memory impairment in aging and tauopathy models**
Lei Yao, Pascale Foreman, Joanna Bons, Ivy Wong, Grant Kauwe, Kristeen Pareja Navarro, Xiaobai Ren, Sui Wang, Lu Chen, Birgit Schilling, Tara Tracy [8'+2']
 Presenter affiliation: Buck Institute for Research on Aging, Novato, California. 107
- Advances in next-generation animal models of Alzheimer's disease—Current status and future perspectives on their applications**
Hiroki Sasaguri [8'+2']
 Presenter affiliation: RIKEN Center for Brain Science, Wako, Japan. 108

Morphological profiling of pathological aggregates stratifies dementia subtypes by deep learning analysis of super-resolution images

Yu Ye [8'+2']

Presenter affiliation: Imperial College London, London, United Kingdom.

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The CHD8 chromatin remodeler as a candidate neuroinflammatory regulator in Alzheimer's Disease—preliminary observations from APP/PS1 transgenic mouse model

Platon Megagiannis, Yang Zhou [8'+2']

Presenter affiliation: McGill University, Montreal, Canada.

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WEDNESDAY, June 24—4:20 PM

POSTER SESSION

And Drinks

See Poster Session I for List of Posters

WEDNESDAY, June 24—6:00 PM

COCKTAILS and BANQUET

THURSDAY, June 25

Departure