

Scientific Programme

From Synapses to Cognition: Emerging Frontiers in Memory Research

08:00–08:50

Registration

08:50–09:00

Opening Remarks

Prof. Lim Kah-Leong · NTU, Singapore

Session I · Synaptic Plasticity, Associative Memory & Memory Engrams

09:00 – 10:30



Prof. Timothy W. Bredy *The University of Queensland, Australia*

A mobile circular DNA element drives memory-related processes in mice



Dr. Jai Polepalli *NUS, Singapore*

Transcriptional evolution of memory traces



Dr. Jun Nishiyama *Duke-NUS, Singapore*

Cell-type-resolved synaptic protein networks in memory



Prof. George Augustine *Temasek Life Sciences Laboratory, Singapore*

A bottom-up approach to understanding the claustrum



Selected Trainee Talk

Presented by a symposium delegate

10:30–11:00

Coffee Break & Networking

Session II · Neural Circuits, Neural Stem Cells & Neuromodulation

11:00 – 12:30



Prof. Nils Brose *Max Planck Institute for Multidisciplinary Sciences, Göttingen, Germany*

EMBO SPEAKER

Synaptic vesicle priming as a key determinant of presynaptic plasticity



Dr. John Chua *NUS, Singapore*

Elucidating the role of autophagy in human brain development



Dr. Camilo David Libedinsky *NUS, Singapore*

Reevaluating the role of short-term plasticity: from working memory to passive short-term memory



Prof. Shawn Je *Duke-NUS, Singapore*

Human midbrain organoids in Parkinson's disease



Prof. Sue Jones *University of Cambridge, UK*

EMBO SPEAKER

Neuronal plasticity at puberty in hypothalamic Kiss1 neurons



Selected Trainee Talk

Presented by a symposium delegate

12:35–13:30

Lunch & Networking

Session III · Memory Dysfunction in Ageing & Neurodegenerative Diseases

13:30 – 15:00



Prof. Martin Korte *Technische Universität Braunschweig, Germany*

EMBO SPEAKER

Neuroinflammation and neurodegeneration: what is the relationship?



Prof. Tuck-Wah Soong *NUS, Singapore*

RNA editing loss in memory function



Prof. Fengwei Yu *Temasek Life Sciences Laboratory, Singapore*

Neuronal pruning and neurodevelopmental disorders



Prof. Shuo-Chien Ling *NUS, Singapore*

Deciphering TDP-43 function and neuronal-glia crosstalk



Selected Trainee Talk

Presented by a symposium delegate

15:00–15:30

Coffee Break & Networking

Session IV · Artificial Intelligence, Computational Neuroscience & Future Brain Technologies

15:30 – 17:00



Prof. Helen Zhou *NUS, Singapore*

Brain foundation models for neurology and psychiatry



Dr. Aditya Nair *NTU, Singapore*

AI and neural dynamics of emotion and social intelligence



Dr. James Chelliah *University of Exeter, UK*

Trio heterozygous mutation leads to hyperexcitability and altered GluA2 expression and function during development in the Trio+/- mouse model



Selected Trainee Talk

Presented by a symposium delegate

SPECIAL LECTURE · 17:00–17:30

Prof. Denise Manahan-Vaughan

EMBO SPEAKER

Ruhr University Bochum, Germany

From Synapses to Cognition: How Long-Term Potentiation Shapes Memory

17:30–17:35

Closing Remarks

Prof. Hongyan Wang · Duke-NUS, Singapore

17:35–20:30

Dinner & Networking

Join us in bringing world-leading neuroscience to Singapore
and fostering discoveries that will impact human health.