

LEE KONG CHIAN  
SCHOOL OF  
MEDICINE



Imperial College  
London

A SYMPOSIUM SPONSORED BY  
NEUROSCIENCE AND MENTAL HEALTH,  
LEE KONG CHIAN SCHOOL OF MEDICINE,  
NANYANG TECHNOLOGICAL UNIVERSITY

# BRAIN NETWORKS: FROM MOLECULES TO DISEASES

A complex, multi-colored visualization of brain neural networks, showing dense connections between various nodes. The colors range from purple and blue to green, yellow, and red, highlighting different pathways or regions of the brain.

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**DATE**           **16 – 17 MAR 2017**  
**TIME**           **9AM TO 6PM**

LEARNING STUDIO, LEVEL 5  
LEE KONG CHIAN SCHOOL OF MEDICINE  
CLINICAL SCIENCES BUILDING  
11 MANDALAY ROAD  
SINGAPORE 308232

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## 16 March 2017, Thursday

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8.15am Registration

### Session 1: Molecular Circuits

Chair - Prof George Augustine, Professor of Neuroscience and Mental Health, LKCMedicine, NTU

9.00am **Cross-talk between the endoplasmic reticulum and the plasma**  
Asst Prof Yasunori Saheki, Nanyang Assistant Professor, LKCMedicine, NTU

9.40am **Conventional and unconventional secretory mechanisms in neuronal differentiation**  
Prof Thierry Galli, Director, Centre of Psychiatry and Neurosciences, (INSERM U894), Jacques Monod Institute, Paris

10.20am **Synapse to nucleus signaling and transcription-dependent plasticity**  
Asst Prof Ch'ng Toh Hean, Nanyang Assistant Professor, LKCMedicine, NTU

11.00am Tea Reception

11.20am **RNA binding proteins in synaptic function and disease**  
Assoc Prof Bryen Jordan, Associate Professor, Department of Psychiatry and Behavioural Sciences, Dominick P. Purpura Department of Neuroscience, Albert Einstein College, New York

12.00pm **Histone acetylome-wide association study of autism spectrum disorder**  
Dr Shyam Prabhakar, Associate Director, Integrated Genomics, Genome Institute of Singapore, A\*STAR

12.40pm Lunch

## Session 2: Neural Circuits

Chair - Prof Balázs Gulyás, Professor of Translational Neuroscience and Scientific Director of the Neuroscience and Mental Health Research Programme, LKCMedicine, NTU

1.40pm **Design and development of novel optogenetic tools for manipulation and observation of neuronal functions**

Dr John Lin, Lecturer, Biochemistry and Molecular Biology, University of Tasmania

2.20pm **Identifying novel cerebellar circuits via optogenetics**

Prof George Augustine, Professor, Neuroscience and Mental Health, LKCMedicine, NTU

3.00pm **Mechanisms of developmental synapse elimination in the cerebellum**

Prof Masanobu Kano, Professor, Department of Neurophysiology, Division of Functional Biology, Graduate School of Medicine, The University of Tokyo

3.40pm Tea Reception

4.00pm **Transformation of cortex-wide emergent properties during motor learning**

Asst Prof Hiroshi Makino, Nanyang Assistant Professor, LKCMedicine, NTU

4.40pm **The control of brain mode**

Assoc Prof Suresh Jesuthasan, Associate Professor of Behavioural Neurosciences, LKCMedicine, NTU

5.20pm **Neural changes in the primate brain subserving the evolution of cognitive motor acts**

Prof Atsushi Iriki, Visiting Professor, LKCMedicine, NTU, and Senior Team Leader, Laboratory for Symbolic Cognitive Development, RIKEN Brain Science Institute, Tokyo

### Session 3: Brain Disorders

Chair - Assoc Prof Suresh Jesuthasan, Associate Professor of Behavioural Neurosciences, LKCMedicine, NTU

9.00am **Genetic and genomic approaches to understanding neurodegenerative diseases**

Asst Prof Foo Jia Nee, Nanyang Assistant Professor, LKCMedicine, NTU

9.40am **A man is as old as his arteries - mechanisms in neurovascular development and pathology**

Asst Prof Christine Cheung, Adjunct Assistant Professor, LKCMedicine, NTU

10.20am **Neuroprotective effects of intermittent fasting: evidence and mechanisms**

Assoc Prof Thiruma Arumugam, Department of Physiology, Yong Loo Lin School of Medicine, NUS

11.00am Tea Reception

11.15am **Predicting long term outcome in chronic inflammatory CNS disease**

Prof Richard Reynolds, Visiting Professor, LKCMedicine, NTU, and Imperial College London

11.55am **Mitochondrial translocator protein: significance in ageing and neuropsychiatric disease**

Asst Prof Anna Barron, Nanyang Assistant Professor, LKCMedicine, NTU

12.35pm **Neurodegenerative dementias as proteinopathies**

Prof Makoto Higuchi, Team Leader, Molecular Neuroimaging Program, National Institute of Radiological Sciences, Chiba

1.15pm Lunch

2.00pm

**Clinical Implications of Frontal-Subcortical Reasoning, Stress, and the Childhood Environment**

Assoc Prof Tan Hao Yang, Visiting Associate Professor, LKCMedicine, NTU, and Johns Hopkins University, Baltimore

2.40pm

**Neuroinflammation in acute and chronic brain diseases**

Prof Balázs Gulyás, Professor of Translational Neuroscience and Scientific Director of the Neuroscience and Mental Health Research Programme, LKCMedicine, NTU

3.20pm

**Clinical Neuroimaging at Ultrahigh Field (7 Tesla): Where does it make a difference?**

Prof Siegfried Trattnig, Professorship, Radiology with special focus on High-field MR, Director of the Centre of Excellence "High-Field MR", Medical University of Vienna

4.00pm

**Closing Remarks**

Prof James Best, Dean, LKCMedicine, NTU

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