

2nd Symposium on Brain and Mind Research in the Asia/Pacific (BMAP)
under the auspices of the Association of Pacific Rim Universities (APRU)

Scientific Programme

Venue: Creation Theatre, Matrix Level 4, Biopolis, 30 Biopolis Street, Singapore S138671

Day 1 – Monday, 1 September 2008

Conference Opening Ceremony

- 0800 Registration of Participants
0850 Audience to be seated
0855 Arrival of Guest of Honour
0900 Welcome Address by **Prof. Barry Halliwell** (Chair, Organizing Committee)
Welcome Address by **Prof. Kenneth J. McGillivray** (Secretary General, APRU)
Opening Address by Guest of Honour, **Prof. Shih Choon Fong** (President, NUS)

Session 1: Ageing and Dementia

Chairperson: Aryeh Routtenberg (Northwestern University)

- 0920 A β (1-42)-mediated oxidative stress in brain of subjects with Alzheimer's disease and mild cognitive impairment: insights into the progression of this dementing disorder from redox proteomics
Allan Butterfield (*University of Kentucky, USA*)
- 0955 Molecular mechanisms of synaptic plasticity and knowledge-based screening for neuroactive compounds
Nancy Ip (*The Hong Kong University of Science and Technology*)
- 1030 Coffee break
- 1050 Biochemical mechanisms of neurotoxicity in Alzheimer's disease and other amyloidoses
David Small (*Menzies Research Institute, University of Tasmania*)
- 1125 Novel transgenic mouse models of frontotemporal dementia
Jürgen Götz (*Brain and Mind Research Institute, University of Sydney*)
- 1200 Role of Testosterone in the Pathogenesis of Alzheimer's disease
Ralph Martins (*Edith Cowan University*)
- 1235 Cell-specific activation of redox driven death signaling pathways in neurodegeneration
Vijayalakshmi Ravindranath (*National Brain Research Centre, India*)
- 1310 Lunch break & poster viewing

Session 2: Molecular Basis of Neural Disorders

Chairperson: Samuel Tay (NUS, Singapore)

- 1415 Brain circuitry and epistatic gene mechanisms of psychosis - dopamine and beyond
Tan Hao-Yang (*National University of Singapore*)
- 1450 Molecular mechanisms of antipsychotics
Yong Sik Kim (*Seoul National University College of Medicine*)
- 1525 Coffee break
- 1555 Ligand-dependent interactions of the 5-HT_{2A} receptor
Mitradas Panicker (*National Centre for Biological Sciences, Bangalore, India*)
- 1630 Impact of stress on cells and synapses in the amygdala: implications for anxiety disorders
Sumantra Chattarji (*National Centre for Biological Sciences, Bangalore, India*)
- 1715 Depart for river cruise and dinner (invited guests only)

Session 3: Ion Channels and Receptors

Chairperson: Suresh Jesuthasan (Temasek Life Sciences Laboratory, Singapore)

- 0900 Neuron-glia communication through EphA4 and Ephrin-A3
Elena B. Pasquale (*Burnham Institute for Medical Research, USA*)
- 0935 Adrenal peripheral oscillator in generating the circadian rhythm of glucocorticoid
Kyungjin Kim (*Seoul National University*)
- 1010 Diversification of neuronal voltage-gated calcium channel phenotypic variations by posttranscriptional modifications
Soong Tuck Wah (*National University of Singapore*)
- 1045 Coffee break
- 1105 *Conus* peptides: Ion Channels and Behavior
Baldomero Olivera (*University of Utah*)
- 1140 The role of a drug-sensitive sorting nexin in regulating brain potassium channels
Paul Slesinger (*The Salk Institute for Biological Studies, USA*)
- 1215 Lunch break and poster viewing

Session 4: Intersection of Philosophy, Psychology & Neurology

Chairperson: Justine Burley (NUS, Singapore)

- 1330 The neurobiology of love and beauty
Semir Zeki (*University College London, United Kingdom*)
- 1405 The neuroeconomics of risk taking
Chew Soo Hong (*The Hong Kong University of Science and Technology*)
- 1440 Developing clinical platforms for testing early intervention in Psychosis
Ian Hickie (*Brain and Mind Research Institute, University of Sydney*)
- 1515 Memories that last a lifetime: Are post-translational brain protein modifications sufficient?
Aryeh Routtenberg (*Northwestern University, USA*)
- 1550 Coffee break
- 1610 Toward functional recovery of neuronal circuits—two new molecules regulating formation and maintenance of synapses in adult brain
Michisuke Yuzaki (*Keio University, Japan*)
- 1645 Executive control in sentence comprehension
Zhou Xiao Lin (*Peking University, China*)
- 1720 Molecular control of memory
Bong-Kiun Kaang (*Seoul National University, Korea*)

Session 5: Neural Stem Cells (organised jointly with APSNR)

Chairperson: Gavin Dawe (NUS, Singapore)

Co-chairperson: Sohail Ahmed (Institute of Medical Biology, Singapore)

- 0900 APSNR Conference opening ceremony
Welcome Address by Guest of Honour, **Prof Colin Blakemore**, Chairman, A*STAR-Duke-NUS
GMS Neuroscience Research Partnership
- 0920 Regulation of neural fate in embryos and stem cells
Claudio Stern (*University College London, UK*)
- 0955 Neural differentiation and cell therapy using pluripotent stem cells
Hideyuki Okano (*Keio University, Japan*)
- 1030 Coffee break
- 1100 Brain tumor suppressors, asymmetric divisions and neural stem cell self-renewal in *Drosophila*
Hongyan Wang (*Duke-NUS Graduate Medical School, Singapore*)
- 1135 Receptors regulating neurogenesis
Gavin Dawe (*NUS, Singapore*)
- 1210 Adult Neurogenesis and Neurological Diseases
Eyleen Goh (*Duke-NUS Graduate Medical School, Singapore*)
- 1900 Conference banquet at Park Hotel Orchard (Pre-dinner cocktail at 1830)

6th Asia Pacific Symposium on Neuroregeneration (APSNR)

Scientific Programme

Venue: Creation Theatre, Matrix Level 4, Biopolis, 30 Biopolis Street, Singapore S138671

Day 1 – Wednesday, 3 September 2008

Session 1: Neural Stem Cells (organised jointly with BMAP)

Chairperson: Gavin Dawe (NUS, Singapore)

Co-chairperson: Sohail Ahmed (Institute of Medical Biology, Singapore)

- 0900 APSNR Conference opening ceremony
Welcome Address by Guest of Honour, **Prof Colin Blakemore**, Chairman, A*STAR-Duke-NUS GMS Neuroscience Research Partnership
- 0920 Regulation of neural fate in embryos and stem cells
Claudio Stern (*University College London, UK*)
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Hongyan Wang (*Duke-NUS Graduate Medical School, Singapore*)
- 1135 Receptors regulating neurogenesis
Gavin Dawe (*National University of Singapore*)
- 1210 Adult Neurogenesis and Neurological Diseases
Eyleen Goh (*Duke-NUS Graduate Medical School, Singapore*)
- 1245 Lunch break and poster viewing

Session 2: Neuron-Glia Interaction

Chairperson: Zhi-cheng Xiao (Singapore General Hospital)

Co-chairperson: Susan Barnett (Glasgow University, UK)

- 1400 Olfactory ensheathing cells: their role in CNS repair
Susan Barnett (*University of Glasgow, UK*)
- 1435 Involvement of microglia in the arrest of oligodendrocyte maturation during demyelination
Kazuhiro Ikenaka (*National Institute for Physiological Sciences, Japan*)
- 1510 Semaphorin signalling: crosstalk in neurons and oligodendrocytes
Dominique Bagnard (*Université Strasbourg, France*)
- 1545 Coffee break
- 1615 *In vivo* developmental analysis of circumventricular organs in transgenic zebrafish
Vladimir Korzh (*Institute of Molecular and Cell Biology, Singapore*)
- 1650 The promise of stem cells as a neuroregenerative approach to the treatment of multiple sclerosis (MS)
Claude C. A. Bernard (*Monash University*)
- 1900 Conference Banquet at Park Hotel Orchard (Pre-dinner cocktail at 1830)

Session 3: Stroke: Experimental and clinical advances

Chairperson: Peter Wong (NUS, Singapore)

Co-chairperson: David W Howells (University of Melbourne, Australia)

- 0900 Is cystathionine β -synthase a therapeutic target in stroke?
Peter T.-H. Wong (*National University of Singapore*)
- 0935 Ischemia-induced new neuron functionally integrated into neuronal network in non-neurogenic region of adult brain
Feng-Yan Sun (*Fudan University, China*)
- 1010 Improving translational research in stroke
David W Howells (*University of Melbourne, Australia*)
- 1045 Coffee break
- 1115 Clinical trial design in stroke
Christopher P. Chen (*National University of Singapore*)
- 1150 Angiogenesis and neurogenesis in chronic cerebral hypoperfusion or treated with EMAS model in rat
Huang X (*Inha University Hospital, Korea & YanBian University Hospital, China*)
- 1205 Hypoxia-inducible gene expression system with erythropoietin 3'-untranslated region for gene therapy in rat spinal cord injury
Jin HongLian (*Yonsei University School of Medicine, Korea*)
- 1220 Lunch break and poster viewing

Session 4: Inflammatory and immunological responses in neuroregeneration

Chairperson: Samuel Tay (NUS, Singapore)

Co-chairperson: Kwok-Fai So (The University of Hong Kong)

- 1330 Mesenchymal stem cell transplantation reduces neuroinflammatory and blood brain barrier damage, and protects dopaminergic neurons in the substantia nigra in a MPTP-induced model of Parkinson's disease
Samuel Tay (*National University of Singapore*)
- 1405 Promotion of remyelination and axonal integrity in MOG-induced experimental autoimmune encephalomyelitis (EAE) animals
Wutian Wu (*The University of Hong Kong*)
- 1440 Defining a role for innate and adaptive immune responses in repair and injury of the traumatized spinal cord
Phillip Popovich (*Ohio State University, USA*)
- 1515 Coffee break
- 1545 Inflammatory response in the neonatal brain in hypoxia
Charanjit Kaur (*National University of Singapore*)
- 1620 Fractalkine/CX3CL1 signalling in the mouse olfactory epithelium: moderator of life and death?
Marc Ruitenber (*The University of Western Australia*)
- 1635 Peripheral administration of lipopolysaccharide induces a deficit in a rodent spatial learning and memory task
Fong Kuan Wong (*GSK Centre for Cognition and Neurodegeneration NUS*)
- 1650 Neuroscience research in Singapore: 2008 and beyond
Discussion led by **Colin Blakemore**

Session 5: Inhibitors of neuroregeneration

Chairperson: Sohail Ahmed (Institute of Medical Biology, Singapore)

Co-chairperson: Alan Harvey (University of Western Australia)

- 0900 The familial Parkinson's disease gene LRRK2 in neurite process maintenance
Asa Abeliovich (*Columbia University, USA*)
- 0930 CNS Regeneration: Molecular approaches to identify novel therapeutic strategies for nerve repair
Alyson Fournier (*McGill University, Canada*)
- 1005 NogoA binding partners and regulation of protein levels
Sohail Ahmed (*Institute of Molecular Biology, Singapore*)
- 1040 Coffee break
- 1110 Neurite outgrowth inhibitors at nodes of Ranvier
Zhi-cheng Xiao (*SGH/IMCB/Duke, Singapore*)
- 1145 Functional development of the zebrafish olfactory bulb
Jun Li (*Singapore Bioimaging Consortium*)
- 1200 Direct visualisation of catecholaminergic axonal projections by expressing membrane-anchored GFP under the control of *tyrosine hydroxylase* gene in zebrafish
Tuan Leng Tay (*University of Freiburg, Germany*)
- 1215 Lunch break and poster viewing

Session 6: Neurotrauma

Chairperson: Ivan Ng (National Neuroscience Institute, Singapore)

Co-chairperson: Lu Jia (NUS, Singapore)

- 1330 Traumatic brain injury in large animal models
Lu Jia (*National University of Singapore*)
- 1405 Data mining in neurocritical care
Ang Beng Ti, Christopher (*National Neuroscience Institute, Singapore*)
- 1440 Tropism and transduction properties of titre matched AAV2 serotypes in adult rat retina after intravitreal delivery
Harvey AR (*University of Western Australia*)
- 1455 Biocompatibility and Toxicity of Cell-Derived Extracellular Matrix and Silk Fibroin Scaffolds *in vitro* and in traumatic brain injury rat model
Moon-hang Kim (*Inha University College of Medicine, Korea*)
- 1510 Coffee break
- 1545 Role of AQP4 in Cerebral Edema and Traumatic Brain Injury
Geoff Manley (*University of California, San Francisco*)
- 1620 Cell Replacement Therapy and Traumatic Brain Injury - Fact or Fiction?
Ross Bullock (*Miller School of Medicine, USA*)
- 1655 APSNR 2010
Jin-Woo Chang (*Yonsei University*)
- 1715 Roundtable discussion: Current issues in the translation of Neural Repair Discoveries
Chairperson: **John Steeves** (*University of British Columbia*)
Co-chairperson: **Zhi-cheng Xiao** (*Singapore General Hospital*)