

**08:45 - 09:00**

**OPENING CONFERENCE**

A/Prof Michael Ibbotson, Chair ANS 2009  
Professor David Vaney, President, ANS

**Location:** Royal Theatre

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**09:00 - 10:00**

**PLENARY 1**

**OVERSEAS PLENARY LECTURE**

**Chair:** Professor Glenda Halliday, Past President, ANS  
Prince of Wales Medical Research Institute, NSW

**Location:** Royal Theatre

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**PLE-WED-01**

Sequential event memory formation and reactivation in the hippocampus and beyond  
**Wilson, M.A. (USA)**

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**Professor Matthew Wilson**

Matthew Wilson received his PhD in Computational and Neural Systems from the California Institute of Technology and completed postdoctoral training at the University of Arizona. In 1994, he joined the faculty of the Departments of Brain and Cognitive Sciences and the Picower Institute for Learning and Memory at MIT.

Using a combination of molecular genetic, electrophysiological, pharmacological, behavioral and computational approaches, Professor Wilson's lab is exploring how memories are formed and used. In particular, this effort is yielding surprising insights into the relationship between dreams and memory. Professor Wilson is the recipient of the Alfred P. Sloan Foundation Fellowship, John Merck Scholar Award and Middleton Neurosciences Award from the MIT School of Science, and the Office of Naval Research Young Investigator Award.



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**10:00 – 10:30** Morning Tea/Exhibition/Posters

**Location:** Exhibition Hall

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10:30 – 12:30

SYMPOSIUM 1

COMPARTMENTALISATION OF SIGNALING IN SPINES  
AND DENDRITES:

IMPLICATIONS FOR INFORMATION STORAGE

*Sponsored by the John Curtin School of Medical Research,  
Australian National University*

**Chairs:** Dr John Power, Queensland Brain Institute, QLD  
Dr Clarke Raymond, Australian National University, ACT

**Location:** Royal Theatre

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- 10:30**      **SYM-01-01**  
Experience-dependent changes in local dendritic branch  
excitability  
Makara, J.K., Losonczy, A. and **Magee, J.C. (USA)**
- 11:00**      **SYM-01-02**  
Do dendritic spines compartmentalise synaptic voltage?  
**Palmer, L.M.** (Switzerland)
- 11:30**      **SYM-01-03**  
Factors controlling calcium compartmentalisation in  
dendritic spines  
**Power, J.M.** and Sah, P. (Australia)
- 12:00**      **SYM-01-04**  
Compartmentalised calcium signalling supports multiple  
forms of long-term potentiation in CA1 pyramidal neurons  
**Raymond, C.R.** (Australia)

10:30 – 12:30

**SYMPOSIUM 2**

**NEUROGENESIS IN THE MAMMALIAN BRAIN**

**Chair:** A/Prof Kay Double, Prince of Wales Medical Research  
Institute, NSW

**Location:** Bradman Theatre

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- 10:30**      **SYM-02-01**  
Extensive telencephalic neurogenesis before kindergarten  
**Shannon-Weickert, C.** (Australia)
- 11:00**      **SYM-02-02**  
Molecular mediators, environmental modulators and  
behavioural correlates of adult neurogenesis in the healthy  
and Huntington's disease brain  
Pang, T.Y.C., Zajac, M.S., Du, X., Nithianantharajah, J.,  
Grote, H.E., Ransome, M.I. and **Hannan, A.J.** (Australia  
and UK)
- 11:30**      **SYM-02-03**  
Activation of endogenous neural stem cells for the  
prevention of age-related cognitive decline  
**Rietze, R.L.** (Australia)
- 12:00**      **SYM-02-04**  
Stem cells, neurogenesis and diseases of the basal ganglia  
in the human brain  
**Faull, R.L.M.**, Curtis, M.A., Kam, M., Dragunow, M.,  
Connor, B. and Eriksson, P.S. (New Zealand and Sweden)

10:30 – 12:30

ORAL SESSION 1

AGEING AND ALZHEIMER'S DISEASE

**Chair:** A/Prof Robert Cappai, University of Melbourne, VIC  
**Location:** Menzies Theatre

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- 10:30 ORAL-01-01**  
Novel aspects of *PRESENILIN1* biology revealed by analysis in zebrafish embryos  
Newman, M., Nornes, S., Verdile, G., Martins, R. and **Lardelli, M.** (Australia)
- 10:45 ORAL-01-02**  
Decreased expression of golgi-associated GGA1 protein in Alzheimer's disease  
Santosa, C., Tan, J.L., McLean, C., Masters, C.L. and **Evin, G.** (Australia)
- 11:00 ORAL-01-03**  
Amyloid- $\beta$  and human amylin share common neurotoxic mechanisms  
**Lim, Y.A.**, Ittner, L., Eckert, A. and Goetz, J. (Australia and Switzerland)
- 11:15 ORAL-01-04**  
Regional post-synaptic scaffold protein loss in AD  
**Proctor, D.T.**, Coulson, E.J. and Dodd, P.R. (Australia)
- 11:30 ORAL-01-05**  
Alpha-synuclein and beta-amyloid interaction in adult neurons: role of cell cycle in producing amyloid and non-amyloid peptides in Alzheimer's disease  
**Majd, S.**, Chegini, F., McCormak, A., Gai, W. and Chataway, T. (Australia)

- 11:45**      **ORAL-01-06**  
Mitochondrial dysfunction triggers neuronal Alzheimer-like cytoskeletal striations containing phosphorylated microtubule-associated protein tau and actin  
**Whiteman, I.T.**, Cullen, K.M., Antao, S.T., Witting, P.K., Bamberg, J.R. and Goldsbury, C. (Australia and USA)
- 12:00**      **ORAL-01-07**  
Age-related regulation of Apolipoprotein-D expression in human prefrontal cortex  
Kim, W.S., Wong, J., Weickert, C.S. and **Garner, B.** (Australia)
- 12:15**      **ORAL-01-08**  
Neuroprotection induced by copper-complexes  
Bica, L., Hung, L.W., Price, K.A., Toulmin, E.L., Hill, A.F., Adlard, P.A., Donnelly, P.S., Barnham, K.J., Crouch, P.J. and **White, A.R.** (Australia)

10:30 – 12:30

ORAL SESSION 2

CENTRAL CONTROL OF CARDIOVASCULAR FUNCTION

**Chair:** A/Prof Ida Llewellyn-Smith, Flinders University of SA

**Location:** Nichols Theatre

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- 10:30 ORAL-02-01**  
Activation of brain regions in response to airpuff  
Furlong, T.M., Horiuchi, J., McDowall, L.M. and  
**Dampney, R.A.L.** (Australia)
- 10:45 ORAL-02-02**  
Cutaneous vasomotor alerting responses (SCVARs) are  
associated with hippocampal theta rhythm in non-moving  
conscious rats  
**Menezes, R.C.A.**, Blessing, W.W. and Ootsuka, Y.  
(Australia)
- 11:00 ORAL-02-03**  
Activation of 5-HT<sub>1A</sub> receptors prevents cardiac  
arrhythmias and attenuates tachycardia during social stress  
in rats  
**Nalivaiko, E.**, Mastorci, F. and Sgoifo, A. (Australia and  
Italy)
- 11:15 ORAL-02-04**  
Angiotensin type 1A receptor knockout mice show no  
blood pressure response to microinjection of angiotensin II  
in the rostral ventrolateral medulla  
**Chen, D.**, Walther, T. and Allen, A.M. (Australia and  
United Kingdom)

- 11:30**      **ORAL-02-05**  
Role of cAMP in cardiovascular regulation of the rat brain stem  
**Tallapragada, V.J.** and Goodchild, A.K. (Australia)
- 11:45**      **ORAL-02-06**  
The role of Gal/O proteins in the rostral ventrolateral medulla in normotension and hypertension  
Hildreth, C.M., Hassan, S.F. and **Goodchild, A.K.** (Australia)
- 12:00**      **ORAL-02-07**  
Cellular sources of angiotensin II - induced superoxide production in the rostral ventrolateral medulla (RVLM)  
**Mayorov, D.N.**, Paton, J.F.R. and Kasparov, S. (Australia and United Kingdom)
- 12:15**      **ORAL-02-08**  
Lack of detectable cGMP in the rat rostral ventrolateral medulla  
Powers-Martin, K., Barron, A.M., Auckland, C.H., McCooke, J.K., McKittrick, D.J., Arnolda, L.F. and **Phillips, J.K.** (Australia)

10:30 – 12:30

ORAL SESSION 3

ARTHROPOD VISION

*Sponsored by ARC Centre of Excellence in Vision Science*

**Chair:** Dr Judith Reinhard, Queensland Brain Institute, QLD

**Location:** Sutherland Theatre

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- 10:30**      **ORAL-03-01**  
The visual determinants of temporal coding in the central  
bee brain  
**Paulk, A.C.**, Dacks, A.M., Phillips-Portillo, J.E., Fellous,  
J.M. and Gronenberg, W. (Australia and USA)
- 10:45**      **ORAL-03-02**  
Flying like a dragonfly: the secrets of the ocelli  
**Berry, R.P.**, Stange, G. and van Kleef, J. (Australia)
- 11:00**      **ORAL-03-03**  
Effects of adaptation and saturation on natural image  
coding  
**Barnett, P.D.**, Nordström, K. and O'Carroll, D.C.  
(Australia)
- 11:15**      **ORAL-03-04**  
Synchronization of the wing beat cycle of the desert locust  
*Schistocerca gregaria* by periodic light flashes  
**Schmeling, F.**, Homberg, U. and Stange, G. (Germany and  
Australia)
- 11:30**      **ORAL-03-05**  
The influence of noise on reliable velocity coding in a  
computational model of fly visual processing  
Brinkworth, R.S.A. and **O'Carroll, D.C.** (Australia)

- 11:45**      **ORAL-03-06**  
The topography of fiddler crab vision  
**Smolka, J.** and Hemmi, J.M. (Australia)
- 12:00**      **ORAL-03-07**  
Astaxanthin based linear polarized light signals in stomatopods  
**Chiou, T.-H.**, Caldwell, R.L., Place, A.R., Marshall, N.J. and Cronin, T.W. (USA and Australia)
- 12:15**      **ORAL-03-08**  
A new category of visual system: circular polarisation vision  
**Marshall, N.J.** (Australia)

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**12:30 – 14:00**    Lunch/Exhibition/Posters (Lunch Provided)  
*Presenters of odd numbered posters in attendance 13:00 – 14:00*

**Location:**      Exhibition Hall

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14:00 – 16:00

**SYMPOSIUM 3**

**NEUROETHOLOGY: LINKING BRAINS TO BEHAVIOUR**

**Chair:** Professor Mandyam Srinivasan, Queensland Brain  
Institute, QLD

**Location:** Royal Theatre

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- 14:00**      **SYM-03-01**  
Processing of complex signals in the auditory system  
studied with in-vivo whole cell recordings  
**Pollak, G.D.** and Gittelman, J.X. (USA)
- 14:30**      **SYM-03-02**  
Honeybee learning of complex scents: from molecules to  
memory  
**Reinhard, J.,** Claudianos, C., Sinclair, M. and Srinivasan,  
M.V. (Australia)
- 15:00**      **SYM-03-03**  
Hemispheric specialization of visual and auditory functions  
**Rogers, L.J.** (Australia)
- 15:30**      **SYM-03-04**  
Vocal learning, mimicry and brain plasticity in songbirds  
and their relevance to human speech development  
**Kaplan, G.** (Australia)

14:00 – 16:00

**SYMPOSIUM 4**

**REGULATION OF NEURONAL FUNCTION BY PROTEIN  
PHOSPHORYLATION**

**Chair:** Dr Adam Cole, University of Melbourne, VIC

**Location:** Bradman Theatre

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- 14:00**      **SYM-04-01**  
Understanding the connections between PAK1 kinase and  
fragile X proteins  
**Manser, E.** (Singapore)
- 14:30**      **SYM-04-02**  
Dynamin 1 interacts with calcineurin for synaptic vesicle  
retrieval  
Xue, J., Novelle, A., Cousin, M.A. and **Robinson, P.J.**  
(Australia)
- 15:00**      **SYM-04-03**  
Regulation of CaMKII activity  
**Rostas, J.A.P.** (Australia)
- 15:30**      **SYM-04-04**  
Identification of novel CDK5 substrates involved in  
Alzheimer's disease  
**Cole, A.R.** (Australia)

14:00 – 16:00

ORAL SESSION 4

ADULT AND EMBRYONIC STEM CELLS

**Chair:** Dr Keely Bumsted O'Brien, Australian National University, ACT

**Location:** Menzies Theatre

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**14:00 ORAL-04-01**

Latent stem and progenitor cells in the hippocampus are activated by neural excitation

Walker, T.L., White, A., Black, D.M., Wallace, R.H., Sah, P. and **Bartlett, P.F.** (Australia)

**14:15 ORAL-04-02**

Induction of neural crest stem cells from human neural progenitors derived from embryonic stem cell

Hotta, R., Pepdjonovic, L., Anderson, R.B., Zhang, D., Bergner, A.J., Leung, J., Pebay, A., Young, H.M., Newgreen, D.F. and **Dottori, M.** (Australia)

**14:30 ORAL-04-03**

Isolation of human BMPRII<sup>+</sup> neuronal-restricted precursors from spinal cord derived neural embryoid bodies

**Weible II, M.W.** and Chan-Ling, T. (Australia)

**14:45 ORAL-04-04**

The role of neogenin and its ligands in differentiation and migration in the adult brain

**Bradford, D.** and Cooper, H.M. (Australia)

**15:00 ORAL-04-05**

Glycoprotein 130 signaling is not required for maintenance of adult neural precursor cells *in vitro*

Mareels, D.A., Kilpatrick, T.J. and **Merson, T.D.** (Australia)

- 15:15**      **ORAL-04-06**  
A novel Cripto antagonizing peptide improves embryonic stem cell based therapy in Parkinson's disease  
**Parish, C.L.**, Lonardo, E., Marasco, D., DeFalco, S., Ruvo, M., Horne, M.K., Minchiotti, G. and Arenas, E.  
(Sweden, Australia and Italy)
- 15:30**      **ORAL-04-07**  
Peptidergic influences on neurogenesis in the adult rodent brain  
Hökfelt, T., Vermeulen, R., Steinbusch, H.W.M., Malmgren, H., He, H., Scott, L., Aperia, A., Horne, M.K. and **Stanic, D.** (Sweden, The Netherlands and Australia)
- 15:45**      **ORAL-04-08**  
Role of lysophosphatidic acid in the neural differentiation of neural stem/progenitor cells derived from human embryonic stem cells  
Dottori, M., Leung, J., Turnley, A.M. and **Pebay, A.** (Australia)

14:00 – 16:00

ORAL SESSION 5

MEMORY AND COGNITION

**Chair:** Professor Marcello Rosa, Monash University, VIC  
**Location:** Nichols Theatre

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- 14:00 ORAL-05-01**  
Comparative neuroanatomy online - researching the mammalian hippocampus via the internet  
**Watson, C.R.** (Australia)
- 14:15 ORAL-05-02**  
Duration but not onset of working memory processes differs for inefficient versus efficient visual search: an EEG/ERP study  
**Phillips, S.** and Takeda, Y. (Japan)
- 14:30 ORAL-05-03**  
A short attention span in the memory consolidation mutant radish  
**van Swinderen, B.** and Brembs, B. (Australia and Germany)
- 14:45 ORAL-05-04**  
Ryanodine receptor-dependent intracellular calcium stores: relationship to nitric oxide and noradrenaline in consolidating long-term memory in the young chick  
**Baker, K.D.,** Edwards, T.M. and Rickard, N.S. (Australia)
- 15:00 ORAL-05-05**  
A cytokine model of cognitive function  
**Baune, B.T.** (Australia)

- 15:15**      **ORAL-05-06**  
Increasing Cu bio-availability inhibits A $\beta$  oligomers and tau phosphorylation, and improves cognition in Alzheimer's disease model mice  
**Crouch, P.J.**, Hung, L.W., Adlard, P.A., Lal, V., Masters, C.L., Cappai, R., Cherny, R.A., Donnelly, P.S., White, A.R. and Barnham, K.J. (Australia)
- 15:30**      **ORAL-05-07**  
Behavioural analysis of congenic mouse strains confirms stress-responsive loci on chromosome 1 and 12  
**Jawahar, M.C.**, Brodnicki, T.C., Quirk, F., Wilson, Y.M. and Murphy, M. (Australia)
- 15:45**      **ORAL-05-08**  
Post-partum depression in mother rats induced by prolonged separation from pups is reversed by consumption of palatable high fat diet  
**Maniam, J.M.** and Morris, M.J. (Australia)

14:00 – 16:00

ORAL SESSION 6

MOTOR CONTROL

**Chair:** Professor Bob Callister, University of Newcastle, NSW  
**Location:** Sutherland Theatre

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- 14:00 ORAL-06-01**  
Balance: a special type of motor control  
**Fitzpatrick, R.C.**, and Luu, B.L. (Australia)
- 14:15 ORAL-06-02**  
Unilateral strength training increases voluntary activation of the opposite untrained limb  
**Lee, M.**, Gandevia, S.C. and Garroll, T.J. (Australia)
- 14:30 ORAL-06-03**  
Reorganisation of the motor cortex in chronic low back pain  
Tsao, H., Galea, M. and **Hodges, P.** (Australia)
- 14:45 ORAL-06-04**  
Motor cortex plasticity induced by a ballistic motor learning task is diminished in older adults  
**Rogasch, N.C.**, Dartnall, T.J., Nordstrom, M.A. and Semmler, J.G. (Australia)
- 15:00 ORAL-06-05**  
Reflex and biomechanical properties with ageing  
**Stanislaus, V.** and Burne, J. (Australia)

- 15:15**      **ORAL-06-06**  
Threat of pain alters motoneurone discharge  
**Tucker, K.**, Larsson, A.K., Oknelid, S. and Hodges, P.  
(Australia and Sweden)
- 15:30**      **ORAL-06-07**  
Modelling the recruitment order of electrically activated  
motor units  
**McNulty, P.A.** and Thayaparan, G. (Australia)
- 15:45**      **ORAL-06-08**  
Stereotyped synergy of human thumb and fingers during  
grasping  
**Yu, W.S.**, Fitzpatrick, R.C. and Gandevia, S.C. (Australia)

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**16:00 – 16:30**    Afternoon Tea/Exhibition/Posters  
**Location:**      Exhibition Hall

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16:30 – 17:30

PLENARY 2

LAWRIE AUSTIN LECTURE

**Chair:** Professor Andrew Lawrence, Howard Florey Institute, VIC  
**Location:** Royal Theatre

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PLE-WED-02

Adventures in neurochemistry: people, places and puzzles  
**Beart, P.M.** (Australia)

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**Professor Phil Beart**

Philip Beart completed his PhD in 1972 at the Australian National University and subsequently worked at the Universities of Cambridge and Harvard before returning to Australia in 1977. He is now a Senior Principal Research Fellow (NH&MRC) and has spent three decades pursuing diverse aspects of the neurochemical pharmacology and anatomy of central neurotransmitters. His major recent focus has been in understanding the neurobiology of L-glutamate by analysing the organisation of its neurons, the pharmacology of glutamate receptors and transporters, and their involvement in excitotoxic brain injury. Phil has published over 200 research papers with more than 4,000 citations. He has been a visiting scientist in Paris, Cambridge, London, Bristol, Copenhagen and Montpellier and received various awards including a DSc (1987) and the Joliot Curie Visiting Professorship (Paris, 2004). Phil serves on numerous Editorial Boards and was Deputy Editor of the Journal of Neurochemistry (1998-2003). He has a strong commitment to the research ethos and the training of young scientists. Phil has served on ANS Council and is currently Secretary of the International Society for Neurochemistry.

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**17:30 – 19:00** Cocktail Party/Exhibition/Posters  
**Location:** Exhibition Hall

**19:00 – 22:00** Post Doc Drinks – Blundells Room, Crowne Plaza  
**19:30** Student Drinks – Holy Grail (details on tickets)

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**08:30 – 09:30**

**PLENARY 3**

**ANS PLENARY LECTURE**

**Chair:** Professor David Vaney, President ANS  
Queensland Brain Institute, QLD

**Location:** Royal Theatre

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**PLE-THU-03**

The action potential

**Stuart, G.J.** (Australia)

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**Professor Greg Stuart**

Greg Stuart developed and pioneered methods that have allowed neuroscientists to probe the function of nerve cells in the brain at an unprecedented level. Using these techniques he discovered that in many neuronal types, nerve impulses actively propagate back to the site of synaptic input. This work provides a framework for understanding the link between neuronal input and output, which is thought to be necessary for learning and memory. He is considered a world expert on the physiology of neuronal dendrites, and recently edited the second edition of the only book devoted exclusively to this subject. He has received a number of national and international fellowships and awards, including a C.J. Martin Fellowship, a Q.E. II Research Fellowship, and a Wellcome Trust Senior Research Fellowship, as well as the AW Campbell Award and recently the Sofja Kovalevskaja Award from the Alexander von Humboldt Foundation, Germany. He is currently Head of the Division of Neuroscience at the John Curtin School of Medical Research at the Australian National University, Canberra.



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**09:30 – 10:00** Morning Tea/Exhibition/Posters  
**Location:** Exhibition Hall

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10:00 – 12:00

SYMPOSIUM 5

**THE AXON: ADVANCES IN CELLULAR PHYSIOLOGY  
AND PATHOPHYSIOLOGY**

*Generously supported by a donation from the Finkel Foundation*

**Chair:** Professor Greg Stuart, Australian National University, ACT

**Location:** Royal Theatre

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- 10:00**      **SYM-05-01**  
Axonal Kv7 channels control membrane potential stability  
**Kole, M.H.P.** and Stuart, G.J. (Australia)
- 10:30**      **SYM-05-02**  
Dynamic properties of cortical axons and synaptic  
transmission  
**McCormick, D.A.**, Shu, Y., Yu, Y. and Maureira, C.  
(USA)
- 11:00**      **SYM-05-03**  
Determination of action potential initiation sites in  
unmyelinated sensory nerve terminals  
**Brock, J.A.** and Carr, R.W. (Australia and Germany)
- 11:30**      **SYM-05-04**  
Function and dysfunction of human axonal ion channels in  
neurological disease  
**Kiernan, M.C.** (Australia)

10:00 – 12:00

**SYMPOSIUM 6**

**“SORTILIN” IT OUT IN NEURODEGENERATIVE  
DISEASE: MECHANISM AND FUNCTION  
OF RECEPTOR ENDOCYTOSIS**

**Chairs:** Dr Simon Murray, University of Melbourne, VIC  
Professor Robert Rush, Flinders University of SA

**Location:** Bradman Theatre

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- 10:00**      **SYM-06-01**  
Mechanisms of receptor endocytosis  
Kerr, M.C. and **Teasdale, R.D.** (Australia)
- 10:30**      **SYM-06-02**  
Sortilin - live or let die?  
**Nykjaer, A.** (Denmark)
- 11:00**      **SYM-06-03**  
The role of sorLA in amyloid precursor protein metabolism  
**Andersen, O.M.**, Cappai, R., Nykjaer, A. and Willnow, T.E. (Denmark, Australia and Germany)
- 11:30**      **SYM-06-04**  
Regulation of P75 neurotrophin receptor cleavage by sortilin?  
**Coulson, E.J.** (Australia)

10:00 – 12:00

ORAL SESSION 7

SCHIZOPHRENIA

**Chair:** A/Prof Anthony Hannan, Howard Florey Institute, VIC  
**Location:** Menzies Theatre

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- 10:00 ORAL-07-01**  
Involvement of mesolimbic dopamine in disruptions of prepulse inhibition induced by serotonin-1A receptor activation  
Gogos, A., Kwek, P. and **van den Buuse, M.** (Australia)
- 10:15 ORAL-07-02**  
Related pathological changes of serotonin 2A, muscarinic M1 and GABA<sub>A</sub> receptors in the superior temporal gyrus in schizophrenia  
**Deng, C.** and Huang, H.-F. (Australia)
- 10:30 ORAL-07-03**  
Differential neurobehavioural effects of acute and chronic cannabinoid treatment on heterozygous neuregulin 1 mutant mice  
**Karl, T.,** Boucher, A., Hunt, G., Micheau, J. and Arnold, J. (Australia and France)
- 10:45 ORAL-07-04**  
apoE expression is increased and LRP12 expression is decreased in the prefrontal cortex of subjects with schizophrenia  
**Gibbons, A.S.,** Thomas, E.A. and Dean, B. (Australia and USA)

- 11:00**      **ORAL-07-05**  
Regulation of tyrosine hydroxylase by the male-specific gene *SRY*: mechanism for sexual dimorphism in dopamine disorders  
**Czech, D.**, Sim, H., Lee, J., Ludbrook, L., Lane, R., Vilain, E. and Harley, V. (Australia and USA)
- 11:15**      **ORAL-07-06**  
The differential effect of clozapine compared to other antipsychotic drugs on cortical and striatal cell signalling: a novel antipsychotic drug mechanism  
**Pereira, A.**, Sugiharto, A., Fink, G. and Sundram, S. (Australia)
- 11:30**      **ORAL-07-07**  
Antipsychotics reverse NMDA receptor antagonist-induced aberrant cortical  $\gamma$  oscillations - a novel model of acute psychosis?  
**Reddy, M.**, Hakami, T., Salzberg, M.R., Morris, M., O'Brien, T.J., Pinault, D. and Jones, N.C. (Australia and France)
- 11:45**      **ORAL-07-08**  
Transcriptional interaction between an estrogen receptor splice variant and ErbB4 suggest convergence in molecular pathways causing schizophrenia  
**Wong, J.** and Weickert, C.S. (Australia)

10:00 – 12:00

ORAL SESSION 8

VISUAL PATHWAYS

*Sponsored by ARC Centre of Excellence in Vision Science*

**Chair:** Professor Bill Levick, Australian National University, ACT

**Location:** Nichols Theatre

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- 10:00 ORAL-08-01**  
Uniformity detector retinal ganglion cells receive only inhibitory synaptic input  
**Sivyer, B.M.A.**, Taylor, W.R. and Vaney, D.I. (Australia and USA)
- 10:15 ORAL-08-02**  
Information carried by the signals of neurons in the primate lateral geniculate nucleus  
**Solomon, S.G.**, Cheong, S.-K. and Camp, A.J. (Australia)
- 10:30 ORAL-08-03**  
CAT V1 center-surround interactions correlated to the orientation map  
**Hashemi-Nezhad, M.** and Lyon, D.C. (USA)
- 10:45 ORAL-08-04**  
Phase-sensitivity and the magnitude of responses of neurones in the cat area 18  
**Romo, P.A.**, Wang, C., Chauvin, G., Solomon, S.G. and Dreher, B. (Australia)
- 11:00 ORAL-08-05**  
Using random walks to redefine simple and complex cells in the visual cortex  
**Van Kleef, J.P.**, Hietanen, M., Crowder, N.A. and Ibbotson, M.R. (Australia)

- 11:15**      **ORAL-08-06**  
Role of inhibition in striate cortical orientation selectivity revealed through a novel paradigm  
**Viswanathan, S.**, Jayakumar, J. and Vidyasagar, T.R. (Australia)
- 11:30**      **ORAL-08-07**  
Stimulus speed selectivity at the peripheral representation of visual area V1  
**Yu, H.-H.**, Tibballs, H.A., Reser, D.H., Verma, R., Liu, L.L. and Rosa, M.G.P. (Australia)
- 11:45**      **ORAL-08-08**  
Conjunction coding of colour and motion in human visual cortex  
**Seymour, K.J.**, Clifford, C.W.G., Logothetis, N.K. and Bartels, A. (Australia and Germany)

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<b>12:10 – 13:00</b>	<b>ANNUAL GENERAL MEETING</b>
<b>Location:</b>	Royal Theatre
<b>13:00 – 14:30</b>	Lunch/Exhibition/Posters (Lunch provided) <i>Presenters of even numbered posters in attendance 13:30 – 14:30</i>
<b>Location:</b>	ExhibitionHall

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14:30 – 16:30

SYMPOSIUM 7

**BRIDGING THE GAP: HUMAN NEUROIMAGING AS THE  
INTERFACE BETWEEN BRAIN AND COGNITION**

**Chair:** Dr Kristen Pammer, Australian National University, ACT

**Location:** Royal Theatre

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- 14:30**      **SYM-07-01**  
Magnetoencephalographic neuroimaging reveals timing of  
human primary visual cortex activity during dynamic  
mental imagery  
**Johnson, B.W.** (Australia)
- 15:00**      **SYM-07-02**  
Mechanisms of cognitive control in language production:  
evidence from fMRI  
**de Zubicaray, G.** (Australia)
- 15:30**      **SYM-07-03**  
What can we "infer" from brain data about the mind?  
**Crewther, D.P.** (Australia)
- 16:00**      **SYM-07-04**  
Dopaminergic modulation of human brain functional  
connectivity in a working memory task  
**Silberstein, R.B.** (Australia)

14:30 – 16:30

**SYMPOSIUM 8**

**INFLAMMATION AND INNERVATION OF THE INTESTINE**

**Chair:** Dr Paul Bertrand, University of New South Wales, NSW  
**Location:** Bradman Theatre

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- 14:30**      **SYM-08-01**  
The Appendix: vestigial organ or immune master controller?  
**Grimm, M.C.** (Australia)
- 15:00**      **SYM-08-02**  
Local and distant effects in a chemically induced model of ileitis in the guinea-pig  
**Bron, R.,** Hunne, B., Needham, K., Jovic, T., Bagyanzki, M., Thacker, M., Pontell, L., Dong, X.-X., Nurgali, K. and Furness, J.B. (Australia)
- 15:30**      **SYM-08-03**  
Visceral hypersensitivity induced by TNBS colitis: contribution of mechanosensitive afferents  
**Hughes, P.A.,** Brierley, S.M., Persson, J., Harrington, A.M., Martin, C.M., Liebrechts, T., Adam, B., Holtmann, G. and Blackshaw, L.A. (Australia)
- 16:00**      **SYM-08-04**  
Mechanisms of sympathetic dysfunction during gastrointestinal inflammation  
**Lomax, A.E.** (Canada)

14:30 – 16:30

ORAL SESSION 9

ALS, PD AND OTHER NEURODEGENERATIVE DISEASES

**Chair:** Professor Ralph Martins, Edith Cowan University, WA  
**Location:** Menzies Theatre

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- 14:30 ORAL-09-01**  
Analysis of the patterns of aggregation of mutant superoxide dismutase 1 in primary murine astrocytic cultures  
**O'Shea, R.D.**, Wallis, N., Farg, M.A., Lau, C.L., Atkin, J.D. and Beart, P.M. (Australia)
- 14:45 ORAL-09-02**  
Cu(ATSM) delays disease progression and increases survival in a transgenic SOD1G93A mouse model of ALS  
**Li, Q.-X.**, Soon, C.P.W., Barnham, K.J., Crouch, P.J., Laughton, K.M., Masters, C.L., White, A.R. and Donnelly, P.S. (Australia)
- 15:00 ORAL-09-03**  
The neuromotor system in a transgenic mouse model of motor neurone disease  
Ellefsen, L. and **Bellingham, M.C.** (Australia)
- 15:15 ORAL-09-04**  
TRP channels regulate transthyretin-induced calcium influx in DRG neurons  
**Gasperini, R.** and Small, D. (Australia)
- 15:30 ORAL-09-05**  
Regulation of human alpha-synuclein gene expression by lipids  
**Cheng, D.**, Kim, W.S. and Garner, B. (Australia)

- 15:45**      **ORAL-09-06**  
An in vivo model of Lewy body development implicates autophagy as central to Parkinson's disease progression  
**Bye, C.R.**, Tinsley, R.J., Parish, C.L. and Horne, M.K. (Australia)
- 16:00**      **ORAL-09-07**  
Divergent phosphorylation pattern of tau in P301L tau transgenic mice  
**Deters, N.**, Ittner, L.M. and Gotz, J. (Australia)
- 16:15**      **ORAL-09-08**  
Metalloomics of neuromelanin in Parkinsonian syndromes  
Bohic, S., Carmona, A., Ortega, R., Reyes, S., Carew-Jones, F. and **Double, K.** (France and Australia)

14:30 – 16:30

ORAL SESSION 10

SYNAPTIC TRANSMISSION

**Chair:** A/Prof John Bekkers, Australian National University, ACT  
**Location:** Nichols Theatre

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- 14:30 ORAL-10-01**  
How can too much stargazin cause epilepsy?  
Sampurno, S., Powell, K.L., Kyi, M., Reid, C.A., Paradiso, L., D'Abaco, G., Kaye, A.H., Morokoff, A. and **O'Brien, T.J.** (Australia)
- 14:45 ORAL-10-02**  
Regulation of release probability and functional heterogeneity at dopaminergic synapses  
**Daniel, J.A.**, Galbraith, S., Abdipranoto, A. and Vissel, B. (Australia)
- 15:00 ORAL-10-03**  
How changes in presynaptic stimulus rate determine the total current generated by type I and II synapses  
**Stricker, C.** (Australia)
- 15:15 ORAL-10-04**  
The dynamin 1 splice variants have distinct in vivo phospho-regulation  
**Chan, L.**, Robinson, P.J. and Graham, M.E. (Australia)
- 15:30 ORAL-10-05**  
Identifying and predicting axonal dysfunction in oxaliplatin-induced neurotoxicity  
**Park, S.B.**, Lin, C.S.-Y., Krishnan, A.V., Goldstein, D., Friedlander, M. and Kiernan, M.C. (Australia)

- 15:45**      **ORAL-10-06**  
Neurotoxicity in acute intermittent porphyria -  
understanding the madness of King George  
**Lin, C.S.**, Krishnan, A., Lee, M.J., Zagami, A.S., Kiernan,  
M.C. and Bostock, H. (Australia, Taiwan and United  
Kingdom)
- 16:00**      **ORAL-10-07**  
Neuregulin modulates acetylcholine receptor clustering via  
non-transcriptional mechanisms  
**Ng, S.T.**, Cole, R.N., Sunn, N., Phillips, W.D. and  
Noakes, P.G. (Australia)
- 16:15**      **ORAL-10-08**  
Patient autoantibodies reveal a role for the postsynaptic  
muscle specific kinase in synapse maintenance at the  
mature neuromuscular junction  
Cole, R.N., Gervasio, O.L., Ghazanfari, N., Brockhausen,  
J., Reddel, S.R. and **Phillips, W.D.** (Australia)

14:30 – 16:30

ORAL SESSION 11

NEURITE OUTGROWTH AND CONNECTIVITY

**Chair:** A/Prof Ann Turnley, University of Melbourne, VIC  
**Location:** Sutherland Theatre

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- 14:30 ORAL-11-01**  
Homer1 expression in the growth cone: regulating calcium homeostasis  
Gasparini, R., Thompson, M. and **Foa, L.** (Australia)
- 14:45 ORAL-11-02**  
Netrin acts directly on an identified sensory neuron to specify site and direction of dendrite outgrowth  
**Mrkusich, E.M.**, Osman, Z.B., Bates, K.E. and Whittington, P.M. (Australia)
- 15:00 ORAL-11-03**  
BDNF exerts contrasting effects on peripheral myelination of NGF-dependent and BDNF-dependent DRG neurons  
**Xiao, J.**, Wong, A.W., Willingham, M.W., Kaasinen, S., Hendry, I.A., Barrett, G.L., Kilpatrick, T.J. and Murray, S.S. (Australia)
- 15:15 ORAL-11-04**  
Role of ATP signalling in the directional migration of neocortical interneurons  
**Britto, J.M.**, Caley, Z. and Tan, S.S. (Australia)
- 15:30 ORAL-11-05**  
Wnt5a-Ryk interactions in callosal axon guidance  
**Deverson, C.E.J.**, Stacker, S.A. and Cooper, H.M. (Australia)

- 15:45**      **ORAL-11-06**  
*Emx1* regulates midline crossing of a sub-population of callosal axons  
Donahoo, A.S., Thurley, J., Piper, M., Moldrich, R.X., Rubenstein, J.L.R. and **Richards, L.J.** (Australia and USA)
- 16:00**      **ORAL-11-07**  
The importance of being ordered  
**Merlin, S.**, Sawatari, A. and Leamey, C.A. (Australia)
- 16:15**      **ORAL-11-08**  
Primary and secondary degeneration of the optic nerve following partial transection: the benefits of lomerizine  
**Fitzgerald, M.**, Bartlett, C.A., Evill, L., Rodger, J., Harvey, A.R. and Dunlop, S.A. (Australia)

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**16:30 – 17:00**      Afternoon Tea/Exhibition/Posters  
**Location:**              Exhibition Hall

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**17:00 – 18:00**

**PLENARY 4**

**ECCLES LECTURE**

**Chair:** A/Prof Michael Ibbotson, Australian National University,  
ACT

**Location:** Royal Theatre

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**PLE-THU-04**

Neurotrauma management – prevention, protection and  
repair

**Reilly, P.L.** (Australia)

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**Professor Peter Reilly**

Professor Reilly has been a practicing neurosurgeon since 1976 and is currently a visiting neurosurgeon at the Royal Adelaide Hospital. From 1994 until 2005 he was head of the Department of Neurosurgery, having previously been Director of Neurosurgical Research (1985-94) and senior staff specialist (1980-85) at the Royal Adelaide Hospital. He has also been a visiting staff specialist at Flinders Medical Centre, Adelaide Women's and Children's Hospital and Royal Darwin Hospital. Since 2003 he has been Clinical Professor of Neurosurgery in the Department of Surgery at the University of Adelaide. He is an executive member and secretary of the Neurosurgical Research Foundation of South Australia Inc. He has recently completed a term as president of the International Neurotrauma Society (2004-06). He is also a former president (1996-98) of the Neurosurgical Society of Australasia, chair (1991-94) of the Neurosurgical Board of the Royal Australasian College of Surgeons, and senior examiner of Neurosurgical Training for South Australia (2002-05). He is a member of the World Federation of Neurological Societies and International Society of Pituitary Surgeons. He has a Bachelor of Medical Science, Doctorate of Medicine and Bachelor of Surgery from the University of Adelaide. He is a Fellow of the Royal Australasian College of Surgeons and of the Faculty of Pain Medicine. He was made an Officer in the General Division of the Order of Australia in 2002 for service to the advancement of neurosurgery through clinical practice, research, education, and professional organizations, and in the prevention and treatment of head injuries.

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**19:30 – 23:45** Conference Dinner

**Location:** New Parliament House

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09:00 – 11:00

**SYMPOSIUM 9**

**PRESIDENTIAL SYMPOSIUM**

**Chairs:** Professor David Vaney, President ANS  
Queensland Brain Institute, QLD  
Professor Glenda Halliday, Past President ANS  
Prince of Wales Medical Research Institute, NSW  
**Location:** Bradman Theatre

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- 09:00**     **SYM-09-01**  
Synaptic properties of newborn neurons  
Cheyne, J.E., Hartel, K., Bezerra, P., Foote, J., Connor, B.  
and **Montgomery, J.M.** (New Zealand)
- 09:30**     **SYM-09-02**  
Neuromotor adaptations with physical activity and exercise  
in humans  
**Semmler, J.G.** (Australia)
- 10:00**     **SYM-09-03**  
Making maps: a role for Ten-m3 in the generation of  
visual topography  
**Leamey, C.A.** (Australia)
- 10:30**     **SYM-09-04**  
Who does what? Unravelling the cellular complexity of the  
brain  
**Allen, A.M.,** Bassi, J.K. and Thomas, W.G. (Australia)

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**11:00 – 11:30** Morning Tea

**Location:** Main Foyer

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11:30 – 13:30

**SYMPOSIUM 10**

**EVOLUTION OF VERTEBRATE PHOTORECEPTORS  
AND RETINA**

*Sponsored by ARC Centre of Excellence in Vision Science*

**Chair:** Professor Justin Marshall, University of Queensland, QLD

**Location:** Bradman Theatre

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- 11:30**      **SYM-10-01**  
Evolution of inner-retinal photoreception: the VA and  
melanopsin photopigments  
**Foster, R.** (UK)
- 12:00**      **SYM-10-02**  
Evolution of the vertebrate eyecup and retina  
**Lamb, T.D.,** Collin, S.P. and Pugh, E.N. (Australia and  
USA)
- 12:30**      **SYM-10-03**  
Evolution of vertebrate colour vision and rod vision  
**Collin, S.P.** (Australia)
- 13:00**      **SYM-10-04**  
The evolution of violet- and UV-sensitive visual pigments  
in birds and mammals  
**Hunt, D.M.** (UK)

11:30 – 13:30

**SYMPOSIUM 11**

**GLIAL CELL BIOLOGY IN HEALTH AND DISEASE**

**Chair:** Dr Toby Merson, Howard Florey Institute, VIC

**Location:** Menzies Theatre

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- 11:30**      **SYM-11-01**  
Regulation of CNS myelination by integrins and growth factors  
Laursen, L., Camara, J., Fonseca, C. and **ffrench-Constant, C.** (United Kingdom)
- 12:00**      **SYM-11-02**  
Gas6 deficiency increases oligodendrocyte loss and microglial activation in response to cuprizone-induced demyelination  
**Kilpatrick, T.J.**, Binder, M.D., Cate, H.S., Prieto, A.L., Kemper, D., Butzkueven, H., Gresle, M.M., Cipriani, T., Jokubaitis, V.G. and Carmeliet, P. (Australia, USA and Belgium)
- 12:30**      **SYM-11-03**  
Glial-neuronal-vascular interactions during normal development and in aged CNS  
**Chan-Ling, T** (Australia)
- 13:00**      **SYM-11-04**  
Mechanisms of myelination by olfactory ensheathing cells  
**Plant, G.W.** (Australia)

11:30 – 13:30

ORAL SESSION 12

TRAUMATIC BRAIN INJURY AND STROKE

**Chair:** Dr Tracy Dickson, Menzies Research Institute, TAS  
**Location:** Nichols Theatre

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- 11:30 ORAL-12-01**  
Unique receptor dependent, plasmin mediated disruption of the blood brain barrier (BBB) by tissue-type plasminogen activator (t-PA)  
Niego, B., Samson, A.L. and **Medcalf, R.L.** (Australia)
- 11:45 ORAL-12-02**  
Glutathione uptake into rat brain mitochondria  
Wadey, A.L., Muyderman, H. and **Sims, N.R.** (Australia)
- 12:00 ORAL-12-03**  
Fractalkine/CX3C1 signalling in the mouse olfactory epithelium positively contributes to a microenvironment for olfactory sensory neuron survival and replacement  
Vukovic, J., Blomster, L., Filgueira, L., Harvey, A.R. and **Ruitenbergh, M.J.** (Australia)
- 12:15 ORAL-12-04**  
Investigation of the functional role of Parkin co-regulated gene (PACRG) in response to cellular stress  
**Brody, K.M.**, Taylor, J.M. and Lockhart, P.L. (Australia)
- 12:30 ORAL-12-05**  
Modifying reactive gliosis post ischemia by Nrf2 activation  
**Porritt, M.J.**, Andersson, H., Nodin, C., Hou, L. and Nilsson, M. (Australia and Sweden)

- 12:45**      **ORAL-12-06**  
The ubiquitin E3 ligase interacting protein, Ndfip1 is associated with neuronal survival following cerebral ischemia *in vivo*  
**Lackovic, J.**, Howitt, J., Callaway, J.K. and Tan, S.S. (Australia)
- 13:00**      **ORAL-12-07**  
Early molecular events of the cerebral inflammation response following acute traumatic brain injury in human brain tissue  
**Frugier, T.**, O'Reilly, D., Morganti-Kossmann, M.C. and McLean, C.A. (Australia)
- 13:15**      **ORAL-12-08**  
The TLR adapter protein MyD88 plays a key role in the regulation of neural injury  
Downes, C.E., Wong, C.H.Y., Guio, P., Zhang, M. and **Crack, P.J.** (Australia)

11:30 – 13:30

ORAL SESSION 13

CORTEX: MOLECULES AND BEHAVIOUR

**Chair:** Professor Charles Watson, Curtin University of  
Technology, WA

**Location:** Sutherland Theatre

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**11:30 ORAL-13-01**

Increased cell proliferation and angiogenesis in the fetal subventricular zone is correlated with the severity of growth restriction

**Tolcos, M.,** Markwick, R., Turnley, A. and Rees, S. (Australia)

**11:45 ORAL-13-02**

Astrocyte architecture in the hypoxic/ischemic brain

**Sullivan, S.M.,** Björkman, S.T., Miller, S.M., Colditz, P.B. and Pow, D.V. (Australia)

**12:00 ORAL-13-03**

The transcription factor Nfia regulates cortical glial development via antagonism of the notch effectors Hes1 and Hes5

**Piper, M.,** Lindwall, C., Barry, G., Mason, S., Little, E., Gronostajski, R.M. and Richards, L.J. (Australia and USA)

**12:15 ORAL-13-04**

Transcriptional control of neuronal migration in the developing cerebral cortex

**Heng, J.I.** and Guillemot, F. (Australia)

- 12:30**      **ORAL-13-05**  
Seizure-related gene Sez-6 regulates excitatory connectivity of cortical neurons  
**Gunnensen, J.M.**, Kim, M.H., Fuller, S.J., De Silva, M., Britto, J.M., Hammond, V.E., Barwood, J.M., Mateos, J.-M., Sonderegger, P., Faber, E.S.L., Sah, P., and Tan, S.-S. (Australia and Switzerland)
- 12:45**      **ORAL-13-06**  
Spatial learning deficits in Ten\_m3 knockout mice  
**Bourke, M.**, Sawatari, A. and Leamey, C.A. (Australia)
- 13:00**      **ORAL-13-07**  
Developmental vitamin D deficiency and dopamine ontogeny  
**Cui, X.Y.**, Pelekanos, M., Kesby, J., Burne, T., Barnes, J., Ko, P., McGrath, J. and Eyles, D. (Australia)
- 13:15**      **ORAL-13-08**  
Developmental vitamin D deficiency is associated with deficits in social behaviour in Sprague-Dawley rats  
**Burne, T.**, Alexander, S., Turner, K., McGrath, J. and Eyles, D. (Australia)

11:30 – 13:30

ORAL SESSION 14

AUTONOMIC FUNCTION

**Chair:** Professor Elspeth McLachlan, Prince of Wales Medical  
Research Institute, NSW

**Location:** Murray Room

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- 11:30 ORAL-14-01**  
Neuron migration in the developing peripheral nervous system  
Hao, M.M., Anderson, R.B., Whittington, P.M. and **Young, H.M.** (Australia)
- 11:45 ORAL-14-02**  
Development of motility in mouse duodenum  
Roberts, R.R., Gwynne, R.M., Bergner, A.J., Young, H.M. and **Bornstein, J.C.** (Australia)
- 12:00 ORAL-14-03**  
Pancreatic preganglionic neurons: differential responses to CCK1 and 5-HT<sub>3</sub> receptor stimulation  
**Mussa, B.M.** and Verberne, A.J.M. (Australia)
- 12:15 ORAL-14-04**  
Many different neurochemical types of nerves disappear from the pregnant rat uterus  
**David, G.J.E.** and Llewellyn-Smith, I.J. (Australia)
- 12:30 ORAL-14-05**  
Changes in mitogen-activated protein kinases (MAPKs) in rat autonomic pelvic ganglion neurons underlying erectile dysfunction in diabetes  
Lee, G.W. and **Purves-Tyson, T.D.** (Australia)

- 12:45**      **ORAL-14-06**  
Chemical coding of the major neuron types in the mouse  
small intestine  
**Furness, J.B.**, Mongardi Fantaguzzi, C., Qu, Z., Thacker,  
M. and Bagyanszki, M. (Australia, Italy and Hungary)
- 13:00**      **ORAL-14-07**  
Mechanisms underlying ascending excitation in the human  
colon  
**Carbone, S.E.**, Brookes, S.J.H., Wattoo, D.A. and  
Spencer, N.J. (Australia)
- 13:15**      **ORAL-14-08**  
Transcutaneous electrical stimulation speeds up colonis  
transit in children  
**Southwell, B.R.**, Clarke, M.C.C., Chase, J., Gibb, S.,  
Robertson, V., Catto-Smith, A. and Hutson, J.M.  
(Australia)

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**13:30 – 14:30** Lunch Break

**Location:** Lunch may be purchased at nearby cafes & restaurants

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14:30 – 16:30

**SYMPOSIUM 12**

**MOLECULAR CONTROL OF INTERNEURON MIGRATION  
IN MAMMALIAN BRAIN DEVELOPMENT**

**Chair:** Professor Cyndi Shannon-Weickert, Prince of Wales  
Medical Research Institute, NSW

**Location:** Bradman Theatre

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- 14:30**      **SYM-12-01**  
Mechanisms and factors guiding cortical interneuron  
migration  
**Tan, S.S.** (Australia)
- 15:00**      **SYM-12-02**  
Patterning of the neocortex by FGF-signaling  
**Rubenstein, J., Faedo, A., Borello, U. and Cholfin, J.**  
(USA)
- 15:30**      **SYM-12-03**  
The multifunctional receptor, neogenin, is required for  
neurogenesis and neuronal migration in the embryonic  
mouse forebrain  
**Cooper, H.M.** (Australia)
- 16:00**      **SYM-12-04**  
Expression of markers of neuronal migration and  
interneurons in the post-natal human cortex  
**Sivagnanasundaram, S.** (Australia)

14:30 – 16:30

SYMPOSIUM 13

**THE TDP-43 MOLECULE IN NEURODEGENERATION –  
GENETIC, BIOCHEMICAL AND PATHOLOGICAL ASPECTS**

**Chair:** Dr John Kwok, Prince of Wales Medical Research  
Institute, NSW

**Location:** Menzies Theatre

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- 14:30**      **SYM-13-01**  
Frontotemporal lobar degeneration with TDP-43  
proteinopathy  
**Cairns, N.J.** (USA)
- 15:00**      **SYM-13-02**  
Mutations in TDP-43 underlying familial and sporadic  
forms of MND/ALS  
**Blair, I.P.,** Warraich, S.T., Durnall, J.C., Williams, K.L.,  
Theong, A.D. and Nicholson, G.A. (Australia)
- 15:30**      **SYM-13-03**  
Identifying neurodegenerative mechanisms with model cell  
systems  
**Cooper, A.A.** (Australia)
- 16:00**      **SYM-13-04**  
Identification of a novel gene for frontotemporal lobar  
degeneration - motor neuron disease  
Luty, A.A., Kwok, J.B.J., **Dobson-Stone, C.,** Loy, C.T.,  
Brooks, W.S., Halliday, G.M. and Schofield, P.R.  
(Australia)

14:30 – 16:30

ORAL SESSION 15

RETINAL ANATOMY AND DISEASE

*Sponsored by ARC Centre of Excellence in Vision Science*

**Chair:** Professor Paul Martin, University of Melbourne, VIC

**Location:** Nichols Theatre

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**14:30 ORAL-15-01**

Synaptic inputs onto large sparse and broad thorny ganglion cells in marmoset retina

**Percival, K.A.,** Martin, P.R., Grünert, U. (Australia)

**14:45 ORAL-15-02**

Alteration in RGC dendritic morphology following AAV transduction with different growth factors

**Rodger, J.,** Hellstrom, M., Yu, H., Heel, K.A., Robertson, D. and Harvey, A.R. (Australia)

**15:00 ORAL-15-03**

Angiotensin type-1 receptor inhibition is neuroprotective to amacrine cells in a rat model of retinopathy of prematurity

**Fletcher, E.L.,** Downie, L.E., Vessey, K.A., Pianta, M.J., Vingrys, A.J., Wilkinson-Berka, J.L. and Kalloniatis, M. (Australia and New Zealand)

**15:15 ORAL-15-04**

Caloric restriction reduces age-related susceptibility of the optic nerve to intraocular pressure challenge

**Kong, G.Y.X.,** Bui, B.V., Trounce, I.A., Vingrys, A.J., Bromelow, K. and Crowston, J.G. (Australia)

- 15:30**      **ORAL-15-05**  
Multifocal pupillographic perimetry in glaucoma  
**Maddess, T.**, James, A.C., Kolic, M. and Essex, R.W.  
(Australia)
- 15:45**      **ORAL-15-06**  
A role for potassium in outer retinal control of choroidal  
structure and function  
**Crewther, S.G.** and Crewther, D.P. (Australia)
- 16:00**      **ORAL-15-07**  
Differential expression of anti-angiogenic factors in the  
primate fovea and macula during development  
**Kozulin, P.**, Natoli, R., Madigan, M.C., Bumsted O'Brien,  
K.M. and Provis, J.M. (Australia)
- 16:15**      **ORAL-15-08**  
Expression of components of the complement system in  
the developing and adult mammalian retina  
**Pow, D.V.**, Barnett, N.L., Taylor, S.M., Woodruff, T.M.  
and Colditz, P.B. (Australia)

14:30 – 16:30

ORAL SESSION 16

EPILEPSY AND OTHER BRAIN DISEASES

**Chair:** Professor Mal Horne, Florey Neurosciences Institute, VIC  
**Location:** Sutherland Theatre

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- 14:30 ORAL-16-01**  
Do homozygous sodium channel beta1 mutant (C121W) mice model Dravet syndrome, a severe form of epilepsy?  
**Reid, C.A.**, Davies, P., Hill, E., Wimmer, V., Berkovic, S.F. and Petrou, S. (Australia)
- 14:45 ORAL-16-02**  
Long term NPY over-expression focally in thalamus suppresses generalised absence-like seizures in a genetic rat model  
Jovanovska, V., van Raay, L., O'Brien, T.J., Bland, R., During, M.J. and **Morris, M.J.** (Australia and USA)
- 15:00 ORAL-16-03**  
Hippocampal neuroplasticity in traumatic brain injury: relationship to post-traumatic epilepsy  
Gan, K., Liu, Y.R., Cardamone, L., Jones, N.C., Bouilleret, V., O'Brien, T.J. and **Myers, D.E.** (Australia)
- 15:15 ORAL-16-04**  
Electrophysiological characterisation of the modulation of cortico-thalamo-cortical oscillations by carbamazepine *in vivo*  
**Zheng, T.W.**, O'Brien, T.J. and Pinault, D. (France and Australia)

- 15:30**      **ORAL-16-05**  
An immunohistochemical study examining the reversibility of neuropathology in the mucopolysaccharidosis IIIA mouse brain  
**Hemsley, K.M.**, Luck, A.J., Hassiotis, S., Beard, H., Crawley, A.C. and Hopwood, J.J. (Australia)
- 15:45**      **ORAL-16-06**  
Axonal dysfunction and conduction failure in diabetic neuropathy  
**Krishnan, A.V.**, Lin, C.S. and Kiernan, M.C. (Australia)
- 16:00**      **ORAL-16-07**  
Cerebrocortical pathology in canine fucosidosis  
**Kondagari, G.S.**, Yang, J., Thompson, P. and Taylor, R. (Australia)
- 16:15**      **ORAL-16-08**  
Relationship between pCREB expression and morphine preference in rats  
**Joshi, D.**, Malone, D.T., Mantamadiotis, T. and Taylor, D.A. (Australia)

14:30 – 16:30

ORAL SESSION 17

TOUCH, BALANCE AND HEARING

**Chair:** Professor Bruce Walmsley, Australian National University, ACT

**Location:** Murray Room

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- 14:30 ORAL-17-01**  
Comparisons of dorsal horn neurones to nociceptive and tactile inputs  
**Chelvanayagam, D.K.** and Mahns, D.A. (Australia)
- 14:45 ORAL-17-02**  
Acute changes in the body schema: development of a phantom hand  
**Walsh, L.D.**, Inui, N., Taylor, J.L. and Gandevia, S.C. (Australia and Japan)
- 15:00 ORAL-17-03**  
Vestibular and somatosensory interactions for human spatial orientation  
**St George, R.J.** and Fitzpatrick, R.C. (Australia)
- 15:15 ORAL-17-04**  
The role of vestibular efferents on the vestibulo-ocular reflex (VOR)  
**Migliaccio, A.A.**, Meierhofer, R. and Lasker, D.M. (USA and Australia)
- 15:30 ORAL-17-05**  
The rostro-temporal auditory area (RT) projects to brain regions associated with emotional processing  
Reser, D.H., Burman, K.J., Richardson, K.E., Spitzer, M.W. and **Rosa, M.G.P.** (Australia)

**FRIDAY 30 JANUARY 2009**

- 15:45**      **ORAL-17-06**  
Neural timing through micro-stimulation of the ventral cochlear nucleus  
**Mauger, S.J.**, Shivdasani, M.N., Rathbone, G.D. and Paolini, A.G. (Australia)
- 16:00**      **ORAL-17-07**  
Origin of hyperactivity in guinea pig inferior colliculus after acoustic injury  
**Mulders, W.H.A.M.** and Robertson, D. (Australia)
- 16:15**      **ORAL-17-08**  
Exceptional high-frequency hearing in Australian pygopod lizards  
**Manley, G.A.** and Kraus, J.E.M. (Australia and Germany)
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- 16:35**      Farewell Drinks and Presentation of Prizes  
**Location:**      Main Foyer
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