

PLENARY Lectures and Symposium

ANS Plenary Lecture: Professor Greg Stuart, The John Curtin School of Medical Research, The Australian National University, ACT.

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.



Overseas Plenary Lecture: Professor Matthew Wilson, The Picower Institute for Learning and Memory, MIT, USA.

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.



Lawrie Austin Lecture: Professor Philip Beart, The Howard Florey Institute, University of Melbourne, VIC.

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.



Eccles Lecture: Professor Peter Reilly AO, Royal Adelaide Hospital, Adelaide, South Australia

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.

The Presidential Symposium

Chairs: ANS President, David Vaney and ANS Past-President Glenda Halliday

Andrew Allen, University of Melbourne, VIC

Who does what? Unravelling the cellular complexity of the brain

Cathy Leamey, University of Sydney, NSW

Making maps: a role for Ten-m3 in the generation of topography

Johanna Montgomery, University of Auckland, New Zealand

Synaptic properties of newborn neurons

John Semmler, University of Adelaide, SA

Neuromotor Adaptations with Physical Activity and Exercise in Humans

ANS SYMPOSIA

Neurogenesis in the mammalian brain

Organisers: Kay Double (k.double@unsw.edu.au) & Glenda Halliday, Prince of Wales Medical Research Institute, NSW.

Chair: Kay Double.

Cynthia Shannon-Weickert, Prince of Wales Medical Research Institute, NSW
Extensive telencephalic neurogenesis before kindergarten.

Anthony Hannan, Howard Florey Institute, Melbourne, VIC
Molecular mediators, environmental modulators and behavioural correlates of adult neurogenesis in the healthy and Huntington's disease brain.

Rodney Rietze, Queensland Brain Institute, QLD
Physical exercise in aged mice restores endogenous neural stem cells to youthful levels and augments the regenerative capacity of the brain.

Richard Faull, University of Auckland, New Zealand
Stem cells, neurogenesis and diseases of the basal ganglia in the human brain.

Compartmentalisation of signaling in spines and dendrites: Implications for information storage

Organisers & Chairs: John Power, Queensland Brain Institute, QLD and Clarke Raymond, Australian National University, ACT (clarke.raymond@anu.edu.au)

Jeff Magee, Janelia Farm Research Campus, Howard Hughes Medical Institute, VA, USA
Compartmentalised plasticity of dendritic excitability.

Lucy Palmer, University of Bern, Switzerland
Segregation of electrical signaling in spines and dendrites.

John Power, Queensland Brain Institute, QLD
Factors controlling calcium compartmentalisation in dendritic spines.

Clarke Raymond, John Curtin School of Medical Research, Australian National University, ACT
Compartment-specific neuronal calcium signals trigger different forms of long-term potentiation.

Neuroethology: Linking brains to behaviour

Organisers: Mandyam Srinivasan (m.srinivasan@uq.edu.au) & Judith Reinhard, Queensland Brain Institute, QLD

Chair: Mandyam Srinivasan.

George Pollak, University of Texas, USA

Processing of complex signals in the auditory system studied with in-vivo whole cell recordings

Judith Reinhard, Queensland Brain Institute, QLD

Honeybee learning of complex scents: from molecules to memory.

Lesley Rogers, University of New England, NSW

Hemispheric specialization of visual and auditory functions

Gisela Kaplan, University of New England, NSW

Vocal learning, mimicry and brain plasticity in songbirds and their relevance to human speech development

The axon: advances in cellular physiology and pathophysiology

Organisers: Maarten Kole & Greg Stuart, Australian National University, ACT

(maarten.kole@anu.edu.au)

Chair: Greg Stuart

Maarten Kole, John Curtin School of Medical Research, Australian National University, ACT

Initiation and regulation of axonal action potentials.

David McCormick, Yale University, CT, USA

Propagation of action potentials in cortical axons.

James Brock, Prince of Wales Medical Research Institute, NSW

Determination of action potential initiation sites in unmyelinated sensory nerve terminals

Matthew Kiernan, Prince of Wales Medical Research Institute, NSW

Changes in voltage-gated ion channels in axonal pathophysiology.

Molecular control of interneuron migration in mammalian brain development

Organiser & Chair: Cynthia Shannon-Weickert, Prince of Wales Medical Research Institute, NSW

(c.weickert@powmri.edu.au)

Seong-Seng Tan, Howard Florey Institute, VIC

Cellular and molecular control of cortical interneuron migration and positioning.

John Rubenstein, University of California, USA

Mechanisms regulating development of cortical interneurons.

Helen Cooper, Queensland Brain Institute, QLD

The multifunctional receptor, Neogenin, is required for cortical interneuron migration in the embryonic forebrain.

Sinhuja Sivagnanasundaram, Prince of Wales Medical Research Institute, NSW

Expression of markers of neuronal migration and interneurons in the post-natal human brain.

Bridging the gap: human neuroimaging as the interface between brain and cognition

Organiser & Chair: Kristen Pammer, Australian National University, ACT
(kristen.pammer@anu.edu.au)

Blake Johnson, Macquarie University, NSW
Title to be advised.

Greig de Zubicaray, University of Queensland, QLD
Language, memory and executive function.

David Crewther, Brain Sciences Institute, Swinburne University, VIC
Visual and cognitive neuroscience.

Richard Silberstein, Brain Sciences Institute, Swinburne University, VIC
Dopaminergic modulation of human brain functional connectivity

Regulation of neuronal function by protein phosphorylation

Organiser & Chair: Adam Cole, University of Melbourne, VIC (a.cole@unimelb.edu.au)

Ed Manser, Institute for Medical Biology, A*Star, Singapore
Title to be advised.

Phil Robinson, Children's Medical Research Institute, University of Sydney, NSW
Cdk5 regulation of neurotransmitter release.

John Rostas, University of Newcastle, NSW
Regulation of CaMKII activity.

Adam Cole, Centre for Neuroscience, University of Melbourne, VIC
Identification of novel substrates of brain-enriched proline-directed kinases.

Evolution of vertebrate photoreceptors and retina

Organiser: Trevor Lamb (Trevor.Lamb@anu.edu.au)
Chair: Justin Marshall, University of Queensland

Russell Foster, University of Oxford, UK
Evolution of inner retinal photoreception: the VA and melanopsin photopigments.

Trevor Lamb, John Curtin School of Medical Research, Australian National University, ACT
Evolution of the vertebrate eyecup and retina.

Shaun Collin, University of Queensland, QLD
Evolution of vertebrate colour vision and rod vision.

David Hunt, University College London, UK
Evolution of opsins in birds and mammals.

'Sortiling' it out in neurodegenerative disease: Mechanism and function of receptor endocytosis

Organiser: Elizabeth Coulson, Queensland Brain Institute, QLD (e.coulson@uq.edu.au)
Chairs: Robert Rush, Flinders University of South Australia & Simon Murray, University of Melbourne

Rowan Teasdale, University of Queensland, QLD
Mechanisms of receptor endocytosis.

Anders Njyker, Aarhus University Denmark
The Sortilin receptor family and their function.

Olav Andersen, Aarhus University Denmark
Regulation of amyloid protein precursor cleavage by SorLa.

Elizabeth Coulson, Queensland Brain Institute, QLD
Regulation of p75 neurotrophin receptor cleavage by sortilin?

Glial cell biology in health and disease

Organiser & Chair: Tobias Merson, Howard Florey Institute, VIC (t.merson@florey.edu.au)

Charles French-Constant, University of Edinburgh and Queen's Medical Research Institute, UK
Regulation of CNS myelination by integrins and growth factors.

Trevor Kilpatrick, University of Melbourne, VIC
Gas6 deficiency increases oligodendrocyte loss and microglial activation in response to cuprizone-induced demyelination.

Tailoi Chan-Ling, University of Sydney, NSW
Glial-neuronal-vascular interactions during normal development and in aged CNS.

Giles W Plant, The University of Western Australia, WA
Factors regulating myelination of axons by olfactory ensheathing cells.

Inflammation and innervation of the intestine

Organiser & Chair: Paul Bertrand, University of New South Wales, NSW
(p.bertrand@unsw.edu.au)

Michael Grimm, University of New South Wales, NSW
Inflammatory processes in the bowel: appendicitis and IBD.

Romke Bron, University of Melbourne, VIC
Ileal inflammation induced by TNBS: molecular and functional changes in Ca²⁺ and Na⁺ channel expression in enteric neurons.

Patrick Hughes, Hanson Institute, Adelaide, SA
Visceral hypersensitivity induced by TNBS colitis: contribution of mechanosensitive afferents.

Alan Lomax, Queen's University, Canada
Inflammation induced changes in the intestine: 5-HT release, vessel reactivity and neuronal excitability.

The TDP-43 molecule in neurodegeneration - genetic, biochemical and pathological aspects

Organiser & Chair: John Kwok, Prince of Wales Medical Research Institute, NSW
(j.kwok@powmri.edu.au)

Nigel Cairns, Washington University, St Louis, USA
The TDP-43 molecule in frontotemporal lobar degeneration.

Ian Blair, ANZAC Research Institute, NSW
Mutations in the TDP-43 gene underlying familial and sporadic forms of MND.

Antony Cooper, Garvan Institute of Medical Research, NSW
Effects of TDP-43 mutations in a Yeast model system.

Carol Dobson-Stone, Prince of Wales Medical Research Institute, NSW
Positional cloning of the novel

ANS SATELLITES

Sensorimotor Control: the jaw and more

Tuesday 27 January 2009

Venue: Finkel Lecture Theatre: John Curtin School of Medical Research, ANU.

Organiser: Dr Simon Gandevia (with a small POWMRI committee)

Further information: Ms Andrea Riley (a.riley@unsw.edu.au; 02 9399 1016)

Web address: <http://sensorimotor-ans2009.powmri.edu.au>

Dementia, Ageing and Neurodegenerative DISEases Group (DANDIS)

Tuesday, 27 January 2009

Venue: Canberra Institute of Technology, Canberra

Further information: Dr Claire Shepherd: c.shepherd@powmri.edu.au

Web address: www.powmri.edu.au/dandis

Vision: From Photoreceptors to Behaviour

Saturday, 31 January 2009

The Shine Dome, Canberra, ACT

Further information: Professor Jan Provis: jan.provis@anu.edu.au

Web address: <http://vision.anu.edu.au/news/ACEVS2009.htm>

6th Australasian Auditory Neuroscience Workshop

Date and Venue to be advised

Further information: Dr Wham Mulders hmulders@cyllene.uwa.edu.au

Please visit the ANS 2009 Satellite Page at:

<http://www.sallyjayconferences.com.au/ans2009/satellite.html> for further details of satellite meetings, as they become available.

2009 IBRO-ANS ADVANCED NEUROSCIENCE SCHOOL ON NEUROETHOLOGY

Canberra January 20-27

The 2009 IBRO-ANS Advanced Neuroscience School on Neuroethology will be held at Kioloa, the beautiful coastal Campus of the Australian National University, in conjunction with the 2009 ANS Conference.

The School on Neuroethology will expose PhD and early post doctoral students to a week-long intensive course in Neuroethology led by leading Australian and international experts in the field. Meet, interact with and learn from some of the world's leading neuroethologists! Topics range from neural circuit analysis, learning and memory, the information processing mechanisms underlying animal navigation, all the way to neuroethological robotics.

Participants will be expected to attend the annual Conference of the Australian Neuroscience Society 2009 directly following the School being held at the ANU Canberra.

International speakers include: Prof. William Kristan, California San Diego; Prof. Barbara Webb, Edinburgh; Prof. George Pollak, Texas; Prof. Kentaro Arikawa, Hayama; Prof. Alison Mercer, Otago; Prof. Martin Giurfa, Toulouse; Prof. Daniel Tomsic, Buenos Aires; Prof. Eric Warrant, Lund Sweden.

For further information, contact jochen.zeil@anu.edu.au, jan.hemmi@anu.edu.au or go to www.rsbs.anu.edu.au/neuroethologyschool