

July 2013



## Contents

[ANS 2013 Melbourne](#)

[President's Perspective](#)

[ANS 2014 Adelaide](#)

[STA board representative for the Medical & Cognitive Sciences cluster](#)

[Round 2 of The Australia-New Zealand Brain Bee Challenge 2013](#)

[Australian Course in Advanced Neuroscience \(ACAN\) 2013](#)

[Science of Learning Research Centre awarded \\$16 million](#)

[News From New Zealand](#)

[Upcoming Conferences](#)

[News From Western Australia](#)

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## Australasian Neuroscience Society Newsletter



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# ANS 2013 Melbourne

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This year the ANS conference was held at the new Melbourne Convention and Exhibition Centre with Major sponsorship from the Transport Accident Commission of Victoria, as well as donations from Monash University, the Finkel Foundation, Neuroscience Research Australia, Cochlear, Centre for Brain Research Auckland, Queensland Brain Institute, RMIT, the Florey Institute of Neuroscience and Mental Health and Melbourne University. This allowed for increased support for students, who each received a greater travel allowance, covering the majority of their flight to Melbourne.

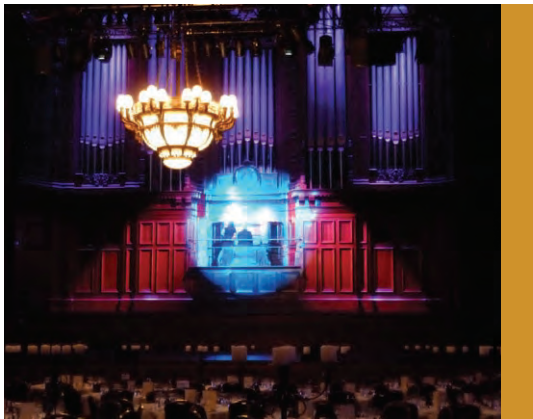
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The meeting was attended by over 1,100 registrants, a new record for an ANS meeting, of which ~20% were attending from countries other than Australia and New Zealand. For the first time, the meeting started on the Sunday night and was opened by the State Parliamentary Secretary for Health, Nick Wakeling MP, followed by the ANS Overseas Plenary, this year presented by Professor Nancy Ip, which was a fantastic start to the meeting.

Over the next 3 days, there were 773 presentations, included in the 19 symposia, oral and poster sessions. Incorporation of a further 3 ANS plenary lectures, presented by by Profs. Paul Martin, Ingrid Scheffer and Margaret Morris, led to a diverse range of discussion and innovation which continued well beyond the meeting. The vision for this meeting was to incorporate translational neuroscience, not only in terms of clinical outcomes but also with respect to neuroengineering and bionics, which have become regular participants at

the meeting. We believe we achieved this through new categories and a number of oral/ symposia sessions focussed on these topics. The excellence of the science presented at the meeting was also picked up by many of the media outlets, and with the assistance of Amanda Place from the FINMH we were continuously outreaching through TV, radio and print media throughout the 3 days, which continued well beyond the end of the meeting.

The highlight of the meeting was of course the dinner at the historic Melbourne Town Hall. This grand event was many months in the making but turned out to be a fantastic night for all. The surprise organ recital was the pinnacle of the night, followed by the traditional disco, continuing to the early hours of the morning. The opening mixer at the MCEC was also an enormous success and a terrific opportunity for people to network and catch up with colleagues.



## ANS Conference Dinner

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at the Melbourne Town Hall

## ANS 2013 Melbourne

This year the postdoc. and student event was arranged by the Students of Brain Research (Melbourne), who organised a fantastic event at a local bar in the City and had Profs Ulf Eysel, Mriganka Sur and Paul Martin discuss their editorial experience. The event was another great success and I would like to congratulate SoBR for putting together a great night and for enabling the opportunity for students and postdocs. to get to know each other in a more social setting.

Congratulations to both student and established ANS Award winners, and to those members who organised the high quality of symposia. Also, thanks to LOC members who each played a significant part in the organisation of the meeting and have been working diligently over the past 2 years: Joanne Britto (Deputy Chair, FINMH), Toby Merson (FINMH), Leon Teo (Monash) Nigel Charles Jones (Melbourne) Allison McKendrick (Melbourne), Tony Paolini (RMIT), Nic Price (Monash), Melanie Pritchard (Monash), Olivia Carter (Melbourne), as well as the ANS Council Members Steve Petrou (Editor), Andrew Allen (Treasurer) and Chris Reid (State Rep.). Finally, I would like to thank of Sally and Chris Jay, for which this was their last meeting. The diligence and support they provide for the meeting ensure that it runs smoothly and seamlessly.

The reins of the 2014 ANS conference are now firmly in the hands of Adelaide local organising committee chair, Michael Lardelli. I am sure that this is going to be another fantastic meeting and look forward to seeing you all there next year.

James  
Bourne

*Chair, ANS 2013 (Melbourne)*



### ANS Conference Dinner

at the Melbourne town Hall.  
Margaret Mmorris ANS  
*Plenary lecturer with Jo Britto.*



## President's Perspective

At the AGM in Melbourne early this year I reported on the visit to Israel by a delegation of 12 Australian neuroscientists led by Dr Alan Finkel to explore the potential for research collaboration in neuroscience as part of a broader bi-national initiative for research collaboration. One early outcome has been funding by the Australia Israel Research Exchange (AIRE) of travelling fellowships for early-mid career Australian researchers to travel to Israel for 2-4 weeks to explore opportunities for collaboration.

Nine fellowships were awarded to researchers from 7 institutions around Australia. These researchers will visit 11 research groups at 6 institutions in Israel before the end of this year. Such travelling fellowships provide a vehicle for institutions and research groups to establish new collaborations or extend existing ones.

They can also enhance the development of individual research careers by providing access to technology, facilities, data sets, new sources of funding and continued interactions with stimulating colleagues. Building such networks of collaboration with international colleagues is going to be increasingly important for a successful long term career.

But does international collaboration produce research of higher impact and/or quality? Analysis of the citation rates for publications suggests that it does.

Australian research publications containing authors from more than one country are cited more often (up to 3 times more often) than publications containing just Australian authors (1). This effect appears to be independent of, and in addition to, the effect of paper quality as it holds true for papers with multi-national vs single national authors appearing in the same journal.

Interestingly, this is not just a phenomenon that applies to researchers publishing from Australia. An analysis of the citation patterns of papers published by researchers from Harvard University showed that they too received a significant boost in citations for papers published with international co-authors that did not occur for papers published with co-authors from other US institutions (2).

For a different look at international comparisons of citation rates the recent paper published by the Office of The Chief Scientist (3) makes interesting reading. It shows that the average citation rates across a range of disciplines for European and North American papers are higher than the world average. The Chief Scientist challenges Australian researchers to benchmark their research against the best in the world rather than the world average.

Among 18 broad fields of science surveyed, Australian papers scored citations above the European average in only 5 fields (Medicine was the only biological field). Eleven fields had citation rates between the European average and the world average (including 4 biological/biomedical fields). Two fields – Psychology and Neuroscience - had

citation rates below the world average, although the European and world averages for Psychology were very similar.

When the subfields of Neuroscience were analysed, only publications in Sensory Systems had citation rates above the European average. Publications in all other neuroscience subfields had citation rates below the world average. Interestingly, the Clinical Neurology subfield of Medicine had a citation rate above the European average. This is yet another indicator that the goal of ANS to enhance collaborations between neuroscientists in the basic and clinical research fields is worthwhile. Such collaborations are likely to increase the research profiles of the collaborators and the impact of their research.

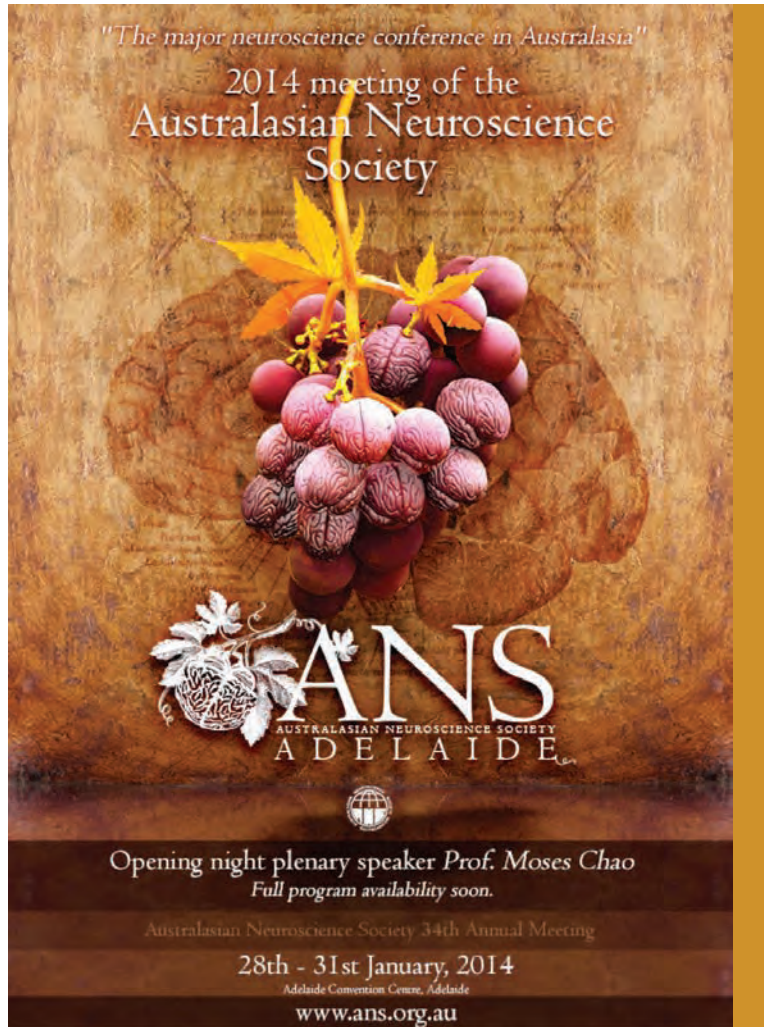
1. Matthews, M et al (2009) <http://www.feast.org/index/document/1>
2. Gazni, A and Didegah, F (2011) *Scientometrics* 87:251-265
3. <http://www.chiefscientist.gov.au/2013/02/productivity-industry-engagement-and-the-phd-workforce/>

Note: A report of the Australian Delegation of Neuroscientists to Israel is available on the ATSE Website.



**John Rostas**

*President, Australasian  
Neuroscience Society*



## ANS 2014 Adelaide

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Preparations for the 34th annual meeting of the ANS are now well underway and your Local Organising Committee in Adelaide is looking forward to welcoming you here in late January next year. We have been advertising the conference heavily overseas and all ANS members should have received our conference poster by now either by mail or as a PDF file attached to an email. Please display the poster in your institutes and encourage others to attend our (your) meeting.

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As the details of the conference come together we are adding ever more information onto the conference website at [www.ans2014.org](http://www.ans2014.org) and at our Facebook page. Now that 19 successful symposium proposals have been chosen we are putting up a list of the prominent national and international speakers who will be attending ANS 2014. But don't forget that there will be up to 11 additional symposia composed of oral presentations selected from abstract submissions as well as our very extensive poster sessions of course! Planning is also underway for an Early Career Researcher evening at the National Wine Centre and for the conference dinner in the huge hall of the Adelaide Convention Centre itself. As you will see when you get here, the conference will have a distinctly South Australian flavour.

A number of satellite meetings are planned for immediately before and after ANS 2014 and the meeting ends on a Friday so I hope you will take the opportunity to come early or stay the weekend afterwards to enhance your SA experience. You will be able to book a winery tour for conference delegates for the Saturday after the conference and there are always Adelaide's great beaches, the Adelaide Hills and the city itself to explore. If you have any questions you can send me an email.

See you soon!

Michael  
Lardelli

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Chair, ANS2014 (Adelaide)

**ANS 2014 Adelaide: Plenary Speakers**

**Overseas Plenary Lecturer:**

Moses Chao, Skirball Institute  
of Biomolecular Science

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**Eccles Plenary Lecturer:**

Perry Bartlett, Queensland  
Brain Institute

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**Lawrie Austin Plenary Lecturer:**

Trevor Kilpatrick, University of  
Melbourne

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**ANS Plenary Lecturer:**

Marcello Costa, Flinders  
University

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# ANS 2014 Adelaide Symposia

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**ANS Adelaide: Symposia**

Details of the symposia approved for the Adelaide meeting are as follows:

**The many faces of the orexin system**

**Organiser:** Pascal Carrive, *University of New South Wales*

**Chair:** Roger Dampney, *The University of Sydney*

**Invited Speakers:**

Akihiro Yamanaka, *Nagoya University*  
Youichirou Ootsuka, *Flinders University*  
Andrew Lawrence, *Florey Neuroscience Institutes*  
Pascal Carrive, *University of New South Wales*

**Neuronal trafficking in synaptic plasticity, learning and memory**

**Organiser:** Victor Anggono, *Queensland Brain Institute*

**Chair:** Adam Cole, *Garvan Institute of Medical Research*

**Invited Speakers:**

Richard Huganir, *Johns Hopkins University*,  
Frederic Meunier, *University Queensland Brain Institute*  
Phillip Robinson, *University Children's Medical Research Institute*,  
Victor Anggono, *University Queensland Brain Institute*

**TRP channels in health and disease**

**Organisers:** Paul Bertrand, *RMIT University*

Stuart Brierley, *University of Adelaide*

**Chair:** Paul Bertrand, *RMIT University*

**Invited Speakers:**

Peter McIntyre, *RMIT University*  
Stuart Brierley, *University of Adelaide*  
Nigel Bunnett, *Monash Institute of Pharmaceutical Sciences*  
Cenac Nicolas, *Inserm U1043, Toulouse, France*

**Convergent and divergent theories of Alzheimer's disease – beyond the amyloid hypothesis?**

**Organiser:** Michael Lardelli, *University of Adelaide*

**Chair:** Ralph Martins, *Sir James McCusker Alzheimer's Disease Research Unit, WA*

**Invited Speakers:**

Eric Schon, *Columbia University Medical Centre*,  
Ashley Bush, *Mental Health Research Institute, Parkville*,  
Jürgen Götz, *Queensland Brain Institute*  
Elizabeth Coulson, *Queensland Brain Institute*,  
Gerald Münch, *University of Western Sydney*

**Glia in development and disease**

**Organisers:** Kaylene Young, *University of Tasmania*

Ilan Gobius, *University of Queensland*

Ben Emery, *University of Melbourne*

**Chairs:** Kaylene Young and Ilan Gobius

**Invited Speakers:**

Melinda Fitzgerald, *University of Western Australia*  
Ben Emery, *University of Melbourne*  
Ori Peles, *Weizmann Institute, Rehovot*  
Jens Bunt, *Queensland Brain Institute*

# ANS 2014 Adelaide Symposia

## **Translational research in depression: stem cells, genes, behaviour and drug response**

**Organiser:** Julio Licinio, *Flinders University*  
**Chair:** Ma-Li Wong, *South Australian Health and Medical Research Institute*  
**Invited Speakers:**  
Naomi Wray, *Queensland Brain Institute*  
Bernhard Baune, *Flinders University*  
Julio Licinio, *Flinders University*  
Plus one other.

## **Neural Engineering**

**-This has been selected as the ANS**

### **Presidential Symposium-**

**Organiser:** Steven Wiederman, *University of Adelaide*  
**Chairs:** Steven Wiederman and David O'Carroll, *University of Adelaide*  
**Invited Speakers:**  
Tobi Delbruck, *University of Zurich and ETH Zurich*  
Eric Warrant, *Lund University*  
Shiela Nirenberg, *Cornell University*  
Tony Burkitt, *Bionic Vision Australia and University of Melbourne*

## **Hearing and deafness: from molecules to cognition with assistive technology**

**Organiser and Chair:** David Ryugo, *Garvan Institute of Medical Research*  
**Invited Speakers:**  
Rachel Burt, *Murdoch Childrens Research Institute*  
M. Charles Liberman, *Harvard Medical School*  
Michal Muniak, *Garvan Institute of Medical Research*  
Catherine McMahon, *Macquarie University*

## **Respiratory control in health and disease**

**Organisers:** Stuart Mazzone, *University of Queensland*  
Michael Farrell, *Florey Institute of Neuroscience and Mental Health*  
**Chair:** Stuart Mazzone, *University of Queensland*  
**Invited Speakers:**  
Bradley Undem, *Johns Hopkins University*  
Mathias Dutschmann, *Florey Institute of Neuroscience and Mental Health*  
Danny Eckert, *Neuroscience Research Australia*  
Michael Farrell, *Florey Institute of Neuroscience and Mental Health*

## **Harnessing brain plasticity for rehabilitation**

**Organiser:** Gabrielle Todd, *University of SA*  
**Chairs:** John Semmler and Michael Ridding, *University of SA*  
**Invited Speakers:**  
Rolf Nudo, *University of Kansas*  
Vincenzo Di Lazzaro, *Catholic University, Rome*  
Paul Hodges, *University of Qld*  
John Rothwell, *University College, London*

## **Transporters in the brain - mechanisms and therapies**

**Organiser and Chair:** Ruth Empson, *University of Otago*  
**Invited Speakers:**  
Renae Ryan, *University of Sydney*  
Andrew Moorhouse, *University of NSW*  
Bruno Meloni, *University of Western Australia*  
Christof Fahlke, *Heinrich Heine Universitat Dusseldorf*

## **The lows and highs of glucose homeostasis: how the brain controls blood sugar**

**Organiser and Chair:** Larissa Bobrovskaya, *University of SA*  
**Invited Speakers:**  
Timothy Jones, *University of Western Australia*  
Ida Llewellyn-Smith, *Flinders University*  
Tony Verberne, *University of Melbourne*  
Sue Ritter, *Washington State University*

## **Tackling the issue of brain concussion - from bench to field-side**

**Organiser and Chair:** Terence O'Brien, *University of Melbourne*  
**Invited Speakers:**  
Sandy Shultz, *University of Melbourne*  
Robert Vink, *University of Adelaide*  
Andrew Gardner, *University of Newcastle*  
Paul McCrory, *Florey Institute of Neuroscience and Mental Health*

## **RNA metabolism in neurodegeneration**

**Organiser:** Ian Musgrave, *University of SA*  
**Chair:** Cath Suter, *Victor Chang Cardiac Research Institute*  
**Invited Speakers:**  
Don W. Cleveland, *UCSD, La Jolla*  
Robert Richards, *University of Adelaide*  
Ian Blair, *Macquarie University*  
Robyn Wallace, *Queensland Brain Institute*

# ANS 2014 Adelaide Symposia

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## **Important lessons from human brain tissue research**

**Organiser:** Glenda Halliday, *Neuroscience Research Australia*

**Chair:** Jillian Kril, *University of Sydney*

**Invited Speakers:**

Catriona McLean, *Mental Health Research Institute*  
Katherine Davies, *Neuroscience Research Australia*  
Elizabeth Scarr, *Melbourne Brain Centre*  
James Vickers, *University of Tasmania*

## **The big bang: a foray into how percepts collide to give rise to embodied sensory experience**

**Organiser:** Lorimer Moseley, *University of South Australia*

**Chair:** Flavia Di Pietro, *Neuroscience Research Australia*

**Invited Speakers:**

Lorimer Moseley, *University of South Australia*  
Melita Giummarra, *Monash University*  
Tasha Stanton, *University of South Australia*  
Valeria Bellan, *Università degli Studi di Milano, Italy*

## **Neurodevelopmental disorders: tracing the developmental trajectory from genes to behaviour**

**Organiser:** Valsamma Eapen, *University of New South Wales*

**Chairs:** Valsamma Eapen, *University of New South Wales*

Bernhard Baune, *University of Adelaide*

**Invited Speakers:**

David Skuse, *University College London*  
Rhoshel Lenroo, *Neuroscience Research Australia*  
Christos Pantelis, *University of Melbourne & Melbourne Health*  
Irina Voineagu, *University of New South Wales*

## **Antibody-associated disorders of the nervous system**

**Organiser:** Fabienne Brilot, *University of Sydney*

**Chair:** Russell Dale, *University of Sydney*

**Invited Speakers:**

Fabienne Brilot, *University of Sydney*  
Tom Gordon, *Flinders Medical Centre*  
Judith Greer, *University of Queensland Center for Clinical Research*  
Stephen Reddel, *University of Sydney, Concord Hospital*

## **Trafficking and local translation of MRNA in neurodegenerative disease**

**Organiser:** Peter Dodd, *University of Queensland*

**Chairs:** Peter Dodd and Joe Rothnagel, *University of Queensland*

**Invited Speakers:**

John Carson, *University of Connecticut*  
Ross Smith, *University of Queensland*  
Elisa Barbarese, *University of Connecticut*  
Matthew Hynd, *Queensland Brain Bank, University of Queensland*



# ANS 2014 Adelaide Official Satellite Meetings



**ENS II 2014**  
**“The Enteric Nervous System, 30 years later”**  
Official satellite event of the 34<sup>th</sup> Annual Meeting of the  
ANS in Adelaide 2014

**Saturday 1<sup>st</sup> and Sunday 2<sup>nd</sup> February 2014**

**National Wine Centre of Australia, Adelaide, South Australia**

John Furness and Marcello Costa, the organizers of the historic ENS 1983 meeting will be the 'patrons' of the 2014 meeting.

Over 30 invited speakers from three generations of investigators from Australia, UK, Canada, USA, Belgium, Italy, Germany and France, will give talks in which they will revisit the original expectations, identify the major advances and define the most productive future directions for research on the enteric nervous system.

There will be a small registration fee for ENS II 2014 and numbers will be limited to 90. Preference will be given to researchers in the field of the ENS.

Applications to attend the meeting should be sent to Anne Cazneaux (anne.cazneaux@flinders.edu.au) by October 11<sup>th</sup> 2013.

Successful applicants will be notified by October 31<sup>st</sup> 2013.

Local organizers: Marcello Costa, Simon Brookes, Nick Spencer, Stuart Brietley

## ANS Adelaide: Official Satellite Meetings

**Title:** Sensorimotor Satellite Meeting  
**Date:** 1st February 2014  
**Location:** University of South Australia, Adelaide  
**Brief description:** The meeting will focus on recent advances in the human sensory and motor systems and neuroplasticity in sensory and motor pathways.  
**Website:** <http://www.sensorimotorcontrolmeeting.org>

**Title:** ENS II 2014: The Enteric Nervous System, 30 Years Later  
**Date:** 1st – 2nd February 2014  
**Location:** National Wine Centre of Australia, Adelaide  
**Brief description:** Over 30 invited speakers will give talks in which they will reveal the original expectations, identify the major advances and define the most productive future directions for research on the enteric nervous system.  
**For more information:** see advertisement.

**Title:** Australasian Auditory Neuroscience Workshop  
**Date:** 26th - 27th January 2014  
**Location:** TBA, Adelaide  
**Brief description:** to provide a scientific context for auditory neuroscience community catch up and focus on new directions in basic, clinical and translational auditory neuroscience.  
**Contact:** David Ryugo david.ryugo@gmail.com

## STA board representative for the Medical & Cognitive Sciences cluster

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Dr Mark Hutchinson (pictured), an ANS member from the School of Medical Sciences, University of Adelaide, has recently been appointed to the Board of Science Technology Australia (STA) as the representative of the Medical and Cognitive Sciences 'cluster'. This cluster comprises 8 large scientific societies. ANS is fortunate to have one of its members in this prestigious and influential position, and we are sure that Mark will be an extremely effective representative. Mark has promised to keep ANS members up to date on STA activities, and will be pleased to discuss any ideas you might have about how STA may best represent the interests of Australian neuroscience.

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### Dr Mark Hutchinson

*ANS Member, School of  
Medical Sciences, University  
of Adelaide, Representative  
of the Medical and Cognitive  
Sciences 'cluster'*



# Round 2 of The Australia-New Zealand Brain Bee Challenge 2013

Round 1 of the Australian-New Zealand Brain Bee Challenge was held in March 2013, during Brain Awareness Week and completed by 5,600 students from over 300 schools across Australia and New Zealand. The Australia-New Zealand Brain Bee Challenge is a neuroscience competition for high school students in Year 10 in Australia and Year 11 in New Zealand. It motivates young people to learn about the brain and inspires students to pursue careers in scientific research

Round 2 is currently being held in each state/territory of Australia and in the South Island and North Island of New Zealand. The students selected for Round 2 spend a day at a research institution or university where they mingle with neuroscientists, tour research laboratories, participate in neuroscience activities, listen to guest speakers and compete to become the Brain Bee Challenge Champion for their region. There is an individual challenge as well as a team challenge for eligible schools.

The ten Round 2 champions will then represent their state/territory/region at Round 3, the Australian and New Zealand National Finals, which will be held at the ANS meeting in Adelaide in 2014.

As the number of schools and students involved in Round 1 continues to grow, many more students are now exposed to neuroscience at high school. The Australia-New Zealand Brain Bee Challenge is in its 8th year and over 30,000 students have participated during this time.

Thanks to our major sponsors for their continued support of the Australian-New Zealand Brain Bee Challenge which allows the Brain Bee Challenge to be held each year- ANS, Queensland Brain Institute, University of Queensland, The CatWalk Trust, The Centre for Brain Research, The Freemasons of New Zealand, ADInstruments and Carl Zeiss Pty Ltd.

For more information about the Australian-New Zealand Brain Bee Challenge and for all Round 2 results and photos, please visit our website at [www.abbc.edu.au](http://www.abbc.edu.au)

## Prof. Linda Richards

*Australian Brain Bee Challenge  
National Co-ordinator*

## Eva Wang

*the 2013 Qld Brain Bee  
Champion.*



# Australian Course in Advanced Neuroscience (ACAN) 2013

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ACAN has become something of a rite of passage for young neuroscientists wanting to get serious about cellular neurophysiology. The course offers three intensive weeks of lectures and lab classes with top international experts, covering topics like ion channel biophysics, patch clamping, synaptic plasticity, brain slice preparation, calcium imaging, dendritic recordings, optogenetics and computational neuroscience. After 9 years of ACAN and 108 ACAN graduates, the course's popularity shows no sign of wavering.

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This year's students, as usual, came from a range of neuroscience backgrounds (addiction, epilepsy, flies, cardiovascular control, etc.) and stages of career (first year PhD to second year postdoc). At the beginning of the course, as always, everyone was awkward and uncertain. By the end, all were well established as card-carrying neurophysiologists, talking the talk and flying solo in challenging experiments that would formerly have seemed about as feasible

as a garden party on Mars. Two of this year's students – David Kaplan from the Florey and Yeri Kim from the University of Auckland – have written colourful accounts of their time at this year's ACAN. See below for their impressions.

ACAN is a team effort that depends upon the support of many people. I wish to thank our national and international faculty for freely donating so much of their time; our course assistants for all the late nights; and the Manager and staff of the Moreton Bay Research Station for making us feel so welcome. Finally, I would like to express my gratitude to the following companies and institutions that have generously supported ACAN 2013.

**Equipment:** *Zeiss* (microscopes), *Olympus Australia* (microscopes), *Nikon* (microscope), *Scientifica/SciTech* (microscope), *Sutter Instruments* (manipulators, shutters), *Axon/ Molecular Devices* (amplifiers, digitizers, software), *Diagnostic Instruments* (cameras).

**Financial support:** *ANU College of Medicine, Biology & Environment, Florey Neuroscience Institutes, Melbourne Neuroscience Institute, Mental Health Research Institute, Monash University, Neurological Foundation of New Zealand, Otago Division of Sciences, Otago School of Medical Sciences, Queensland Brain Institute, RMIT University, University of Auckland Centre for Brain Research, University of Newcastle, University of Queensland (DVCR), University of Queensland (Faculty of Science), University of Western Australia.*

Next year ACAN will run from 20 March to 13 April 2014. The call for applications will go out in November 2013. ACAN 2014 will be the tenth year of the course and we promise something special! I encourage all budding neurophysiologists to pester their supervisors, gather their thoughts, and put in an application.

**John Bekkers**

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*ACAN Director*

# Australian Course in Advanced Neuroscience (ACAN) 2013

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Picture a sundrenched tropical island with pristine beaches, exotic wildlife, suntanned locals and a dozen budding electrophysiologists. For those still struggling, imagine the Big Bang Theory meets Baywatch and you've got the Australian Course in Advanced Neuroscience, or ACAN as it is affectionately known. For three weeks every year the Moreton Bay Research Station is painstakingly converted into a designated functional neuroscience lab, where twelve PhD students and post-docs from around Australia and New Zealand converge to learn the most cutting edge techniques in electrophysiology and functional imaging. This year I was fortunate enough to participate as a student at the course.

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The course is highly intensive. Six days a week students begin their mornings with three hours of lectures that provide detailed explanations of the necessary foundations of functional neuroscience. Lectures are followed by a lab briefing before everyone files into the lab to commence the daily marathon of experiments. During these sessions students are given the opportunity to try their hand at a range of different electrophysiology and imaging techniques, growing more technically challenging as the course progresses. The first few days are spent mastering the basics of patch clamping in rat brain slices before moving on to extracellular recordings, paired and dendritic patch clamping, computational modelling, transfection and voltage clamping of cultured cell lines and a broad selection of other electrophysiology methods. The second half

of the course steers away from electrophysiology to focus on functional imaging techniques such as fluorescence imaging using calcium sensitive dyes. Each technique is taught by an expert in the field from Australia or abroad, and members of the faculty float around the lab to assist wherever needed as students struggle to acquire the necessary skills. Of course the day's proceedings are punctuated with meals where students gorge themselves on culinary delights served up by the irreplaceable caterer, Christina, who is charged with the task of ensuring our waistlines expand in proportion with our minds.

The course is modelled closely on similar programs that have long been running in North America. This vision was imported to Australia by the esteemed neuroscientist and current Chancellor of Monash University, Alan Finkel, who founded the program in 2005 and continues to attend and present lectures. The passion that drove Alan to found the course has been carried through by the scores of established neuroscientists from Australia and abroad, who take time away from their hectic schedules to teach, guide and inspire those of us fortunate enough to attend the course. Each of the academic staff explicitly conveys their enthusiasm for providing young, local neuroscientists with the knowledge and skills necessary to compete in this rapidly evolving field. The teachers and demonstrators are hand selected on the basis of their expertise which they endeavour to transfer to the students through in-depth lectures and practical guidance. The course coordinator, John Bekkers, shows an inexhaustible devotion to his students, remaining in the lab late into the evening while eager students are still

trying to master the day's technique, and happily fielding any questions they may have with limitless patience. The course offers an unparalleled training experience with a near one-to-one teacher to student ratio ensuring constant attention and nurturing. This culminates with the group projects at the end of the three weeks, where students are challenged to design and execute their own study using the skills and knowledge acquired during the program. In pairs, students consult the relevant literature to generate a question that they will attempt to answer over two days of electrophysiology and imaging experiments. They then present their findings to their peers and the faculty for scrutiny. This offers a rare opportunity to explore an area beyond the immediate scope of their regular studies and to conduct experiments using techniques and resources not readily available to most. The quality of the group projects demonstrate the sheer volume of knowledge and technical skill acquired throughout this intensive course, but the hard work is complimented by some well-earned respite.

Sundays offer the opportunity to explore the island and the Laboratory Manager, Garry Rodda, keenly dons his tour guide hat, piling everyone into the back of his eleven seater 'troopy' to be ferried around to lakes, beaches and lookouts across the island. At each site everyone tumbles out of the troopy to engage in one of the many activities the island has to offer, fending off even the briefest instance of boredom. A particular highlight came on the second Sunday of the course when Garry drove us down to Amity Point, a small township on the north west of the island, not to be mistaken with

# Australian Course in Advanced Neuroscience (ACAN) 2013

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*(ACAN 2013 continued)*

the fictional town of the same name featured in the Jaws films - an important point given the day's activity was snorkelling. We spent the morning taking in the spectacular marine life mere feet below the water's surface, and two members of the group even claimed to have seen a shark, although this was likely an hallucination induced by prolonged exposure to carbogen in the lab.

The merits of attending ACAN stretch well beyond the educational. Interaction with established researchers offers an important professional opportunity as well as an introduction to the many diverse approaches to the questions of neuroscience practised around Australia and beyond. Similarly, the relationships formed with other participants of the program are invaluable. Through our shared experience we have forged a connection that we will no doubt carry long into our careers, leading to many exciting collaborations. Since returning from the course I find myself bursting with new ideas, imbued with a much richer understanding of neuroscience and possessed by a passion for discovery.

## David Kaplan

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*PhD Candidate, Ion Channels and Disease Group, The Florey Institute of Neuroscience and Mental Health*

Twelve students, three weeks and a tropical island. As opportunities go, ACAN is definitely a winner. It is hard to beat a combination of enthusiastic students, passionate teachers, and cutting edge equipment with a beautiful backdrop of sun and sand. With a combination of lectures, laboratory sessions and more than a few late nights, we were given the chance to explore topics of neuroscience previously locked away in textbooks. There is nothing quite like learning from the people who actually discovered the information, even if the sheer volume meant we sometimes relied on osmosis.

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The bulk of this material was presented in a stimulating morning lecture series on the fundamentals of neuroscience, elements of which were then put into practice in the rest of the day's work in the laboratory. These fundamentals took us right back to the very first recordings taken from squid axons, to synaptic transmission, dendritic recordings, all the way to optogenetics. Naturally, all of this material gave me ample opportunity to test the hypothesis that there is no such thing as a 'stupid' question. After a few valiant efforts, we soon realised that ACAN was a place that fostered inquisitive minds and curiosity.

Laboratory sessions typically extended late into the night, but time definitely flies when you are having fun. Like-minded people made these sessions enjoyable, even in our humble beginnings when we were more familiar with an image of a broken pipette tip than a neuron! By the end of

three weeks, we had all gained the confidence to work independently, even in tasks as demanding as recording from paired neurons and dendrites. One of my favourite moments was seeing the complexity of neuronal interactions visualised through synaptically paired neurons and calcium imaging. Another was having our group serenaded with the relaxing melodies of Mozart by Professor Larkum and his violin.

Aside from acquiring the technical skills, ACAN was also a character-building exercise. Not in the least, being a Kiwi student lost amongst the Aussie crowd meant my native tongue of English was hopeless for communication, and we were forced to rely on science to do the talking for us. The intensive course took us beyond simple networking, and gave us a chance to build friendships in a dynamic, supportive environment. There's something about shared frustration that brings people closer

July 2013

# Australian Course in Advanced Neuroscience (ACAN) 2013

*(ACAN 2013 continued)*

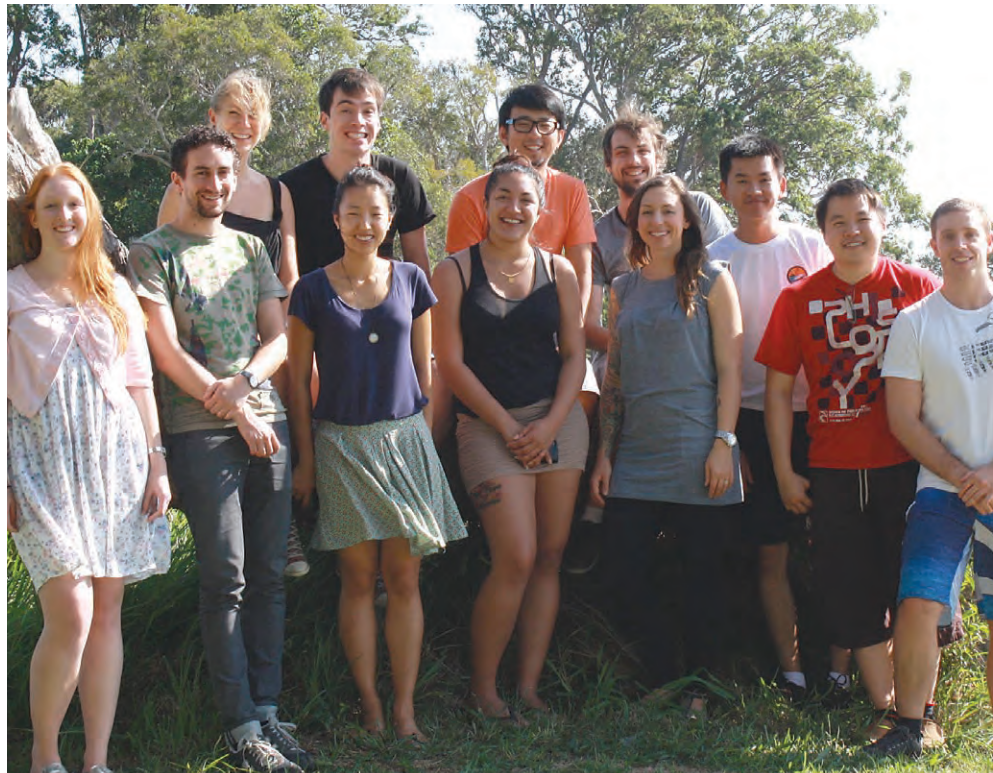
together! I am looking forward to catching up with the lecturers, lab-demonstrators and my fellow students of ACAN in the future.

I came back from ACAN feeling demystified, and with a thirst for more to come. A big thank you to John and the ACAN family for making this course an invaluable experience, and I am grateful to our sponsors for the quality of equipment they provided. If my experience is anything to go by, a few newly minted experts will be gently encouraging their supervisors to expand their home facilities.

Our highly powered (n=12) study showed it is possible to learn dual patch clamping in the same three weeks you were introduced to an electrophysiology rig. At the same time, you have the opportunity to build lifelong friendships, and foster your interest in science. And did I mention the tropical island? See how far your curiosity can take you, future ACAN students.

## Yeri Kim

*Department of Ophthalmology  
University of Auckland,  
New Zealand*



## ACAN Class of 2013

**Back (L-R):** Anne Harasta,  
Lee Fletcher, Melvyn Yap,  
Will Brown, Ivan Hong.

**Front (L-R):** Jennifer  
Robertson, David Kaplan,  
Yeri Kim, Mel Mangala, Adie  
Wilson-Poe, Jiann Yeoh,  
Clément Menuet.

## News From New Zealand

### University of Otago Brain Health Research Centre Annual Conference (6th June)

On Thursday 6th June, the Brain Health Research Centre hosted its 7th annual conference at the Dunedin Public Art Gallery. The Centre's focus for 2013 is Alzheimer's disease and a large team at the BHRC are focusing on diagnosing and treatment of the disease. As part of the conference, and the Centre's public outreach programme, the BHRC hosted a free public seminar on Alzheimer's disease on the Thursday evening. It was great to see such a large turnout from the public, with hardly a seat to spare. The evening began with Honourable Jo Goodhew, Minister for Senior Citizens and Associate Minister of Health, officially opening the conference. The guest speaker for the evening was Wendy Fleming, who presented her talk 'Dementia: The epidemic is here'. Wendy is the Chair of Alzheimer's New Zealand Charitable Trust and the Vice-Chair of Alzheimer's Disease International. She is also an Honorary Life Member, and past Chair of Alzheimer's New Zealand. Wendy spoke about the stigma surrounding dementia and the lack of people prepared to speak out about their experiences being a factor in the lack of funding for research. On a worldwide scale, the estimated economic burden of dementia ranks higher than stroke, heart disease or cancer combined, yet the research funding allocated to dementia is only a fraction of each of these. Once again this year, the BHRC conference registrations were filled up, and 100 leading brain researchers from the

Centre attended a full day conference at the Art Gallery. This year's conference included sessions on Alzheimer's disease, Blood Borne Biomarkers, Novel Therapeutics, and postgraduate student presentations. Amongst our own BHRC members presenting on the day, we were pleased to welcome Professor Peter Schofield from Neuroscience Research Australia, and from the University of Auckland, Ju-li Lily Chang, Associate Professor Cristin Print, Professor Mike Dragunow and Associate Professor Debbie Young.

The South Island competition took place on 25th June at the University of Otago and this year's winner was Amelia Young, from Villa Maria College, Christchurch, who was followed closely - very closely - by Luke Gellen from Christ's College, Christchurch. Amelia will now have the opportunity to travel to Adelaide early next year to compete against the finalists from the Australian States and NZ's North Island. We wish her all the best! Villa Maria also won the team competition - well done girls, GirlPower lives!

The North Island Brain Bee competition will take place on 3rd July - watch this space for more news!

Ruth Empson

### Top Photo

**Top photo caption:** Professor Cliff Abraham, Director of BHRC, Wendy Fleming Chair of Alzheimer's New Zealand Charitable Trust and the Vice-Chair of Alzheimer's Disease International, the Honourable Jo Goodhew, Minister for Senior Citizens and Associate Minister of Health, Dr Brian McMahon CBE and Patron of the BHRC, Assoc Prof John Reynolds, Deputy Director of the BHRC, at the BHRC conference, Dunedin Art Gallery.



### Centre Photo

Amelia Young, winner of the South Island individual Brain Bee with Dr Ruth Empson ANS rep for NZ and Runner Up Luke Gellen with Mr Bevan Rickerby from Dunedin Rotary and Dr Steven Bunn, organiser of the NZ South Island Brain Bee, outstanding in his psychedelic NZ koru attire!



## \$16 million Award

The Australian Research Council has awarded \$16 million dollars over four years for a Science of Learning Research Centre (SLRC), a Special Research Initiative. The application was led by Professor Ottmar Lipp from UQ's School of Psychology, in cooperation with Professor Pankaj Sah, QBI, Professor John Hattie, University of Melbourne, and Dr Mike Timms, ACER.

The Centre will bring together researchers in education, neuroscience, and cognitive psychology from three lead institutions, UQ, the University of Melbourne, and the Australian Council for Educational Research (ACER), as well as Flinders University, Deakin University, University of New England, Charles Darwin University, and Macquarie University to work with teachers to enhance our understanding of the learning process.

The Centre is based around three broad themes: understanding learning; measuring learning; and promoting learning. The aim is to conduct cross-disciplinary research to uncover the nature of the learning process, with respect to biological, cognitive, and social factors, and to translate this research into effective techniques for teaching and assessment that align with the learning process.

## Upcoming Conferences

School of Medicine 

### 4<sup>th</sup> Australian Neurotrauma Symposium

**School of Medicine**  
University of Tasmania  
October 24-25 2013

Postgraduate students, Research Fellows, Academic and Clinical Staff are all welcome to attend the 4<sup>th</sup> Australian Neurotrauma Symposium.

Confirmed Keynote Speakers include:

**Dalton Dietrich**, The Miami Project, USA  
**Brian Kwon**, ICORD, Canada  
**Helen Bramlett**, The Miami Project, USA  
**Andrew Maas**, Antwerp University Hospital, Belgium  
**Louise Nicholson**, University of Auckland, NZ

Registration and catering is free. RSVPs are essential so that we can plan catering. Registrants are encouraged to submit abstracts and there will be a poster session as part of the meeting.

Postgraduate student and ECR prizes. Prizes will be awarded to the best abstract submitted by a student and an ECR and the recipients will be invited to present their work in a Symposium session. See website for further details.


Date: Thursday 24<sup>th</sup> and Friday 25<sup>th</sup> of October, 2013  
Address: Auditorium, UTAS Medical Science Precinct, Corner Campbell and Liverpool Streets, Hobart  
RSVP: Please register by sending the form on the Conference website to Tracy Green ([Tracy.Green@utas.edu.au](mailto:Tracy.Green@utas.edu.au)) by September 24. Other inquiries to Adrian West ([Adrian.West@utas.edu.au](mailto:Adrian.West@utas.edu.au)) or James Vickers ([James.Vickers@utas.edu.au](mailto:James.Vickers@utas.edu.au)).  
Conference website: <http://www.utas.edu.au/medicine/events/n/2013/events/october/neurotrauma>


# Upcoming Conferences

## The Life Stages of a Neuroscientist: "What I wish I had known back then..."

This seminar aims to answer common questions about **neuroscience training, research culture and careers.**

"What are my career options post PhD? How can I get into industry? Can I combine clinical medicine and research? How do I have a family and a career? How do I negotiate a PhD project? What are the rules for publication authorship?"







**Join us at the NSW ANS Seminar**  
**Tuesday 6<sup>th</sup> August 2013**  
**5pm-7.30pm**  
**Level 3, Staff Room**  
**Neuroscience Research Australia**  
**Barker St, Randwick, Sydney NSW 2031**

**Our experienced neuroscientists will answer YOUR questions!**  
 Email your questions to [ans-earlycareer@neura.edu.au](mailto:ans-earlycareer@neura.edu.au)  
 by Tuesday 16<sup>th</sup> July

**The best question submitted prior to the event will  
 WIN an Apple iPad!**  
**Plus, another Apple iPad will be won on the night!**  
**The seminar will be followed by drinks and nibbles.**

This seminar is FREE and is open to ANS and non-ANS members.  
 You must register at [ans-earlycareer@neura.edu.au](mailto:ans-earlycareer@neura.edu.au)  
 Email your name, affiliation and position and indicate if you are a current ANS member.

We thank our sponsors of this event:  
 ANS and Neuroscience Research Australia



**7<sup>th</sup>**  
 Alzheimer's + Parkinson's Disease Symposium

**23-24 September 2013**  
 Queensland Brain Institute (QBI), The University of Queensland

Organized by Professor Jürgen Götz (QBI) and Professor Lars Ittner (UNSW), alternating on an annual basis between QBI (2013) and UNSW (2014)

**Pre-announcement**  
 As in previous years, the focus of the 7<sup>th</sup> A&PD Symposium is on neurodegeneration in a very broad sense. Around 25 highly esteemed speakers from both Australia and overseas will present their latest exciting work.

This two-day event that has in previous years consistently drawn more than 160 attendees, will begin with a full-day symposium with 20-35 minute talks on Monday and the Tuesday morning, followed on Tuesday afternoon by two consecutive workshops, one on Alzheimer's disease and the second on Frontotemporal dementia / Motor neuron disease. There will also be a poster session, with a poster prize being awarded on the second day of the symposium.

**Speaker list**

<p><b>+</b> Christian Behl (University of Mainz, Germany)</p> <p>Ian Blair (Macquarie University)</p> <p>Ashley Bush (University of Melbourne)</p> <p>James Burrell (NeuRA, Sydney)</p> <p>Gerard Byrne (RBWH Brisbane)</p> <p>Roberto Cappai (University of Melbourne)</p> <p>Lizzie Coulson (QBI)</p> <p>John Drago (University of Melbourne)</p> <p>Dongsheng Fan (Peking Univ Third Hospital)</p> <p>Christian Haass (DZNE, Germany)</p> <p>Glenda Halliday (NeuRA, Sydney)</p> <p>RongQiao He (Chinese Academy of Sciences)</p> <p>Massimo Hilliard (QBI)</p> <p>Michael Lardelli (University of Adelaide)</p>	<p>Gerald Muench (Univ Western Sydney)</p> <p>Angus Nairn (Yale University)</p> <p>Peter Noakes (UQ)</p> <p>Yan Wei (Chinese Academy of Sciences)</p> <p>David Small (University of Tasmania)</p> <p>Vladimir Sytnyk (UNSW, Sydney)</p> <p>Estelle Sontag (University of Newcastle)</p> <p>Jana Vukovic (QBI)</p> <p>Jian-Zhi Wang (Tongji Medical College)</p> <p>Naomi Wray (QBI)</p> <p>Wei Wen (UNSW, Sydney)</p> <p>Tony White (University of Melbourne)</p> <p>Ernst Wolvetang (UQ)</p>
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Further information can be obtained from Professor Jürgen Götz ([j.goetz@uq.edu.au](mailto:j.goetz@uq.edu.au)) A detailed program will be sent out closer to the date.





# News From Western Australia

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## Busy Brain Bees Rose To The Challenge

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More than 70 outstanding Year 10 students from WA competed in the WA State Finals of the Australian Brain Bee Challenge (ABBC) at The University of Western Australia last month, coordinated by Assoc Prof Jenny Rodger.

Lindy  
Fitzgerald

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The students outsmarted 465 teenagers from 21 schools in a multiple-choice neuroscience quiz to make the top 70. These students then attended the finals at The University of Western Australia, where they competed in individual and team competitions, toured UWA's neuroscience research facilities and met with scientific researchers. They were also treated to a presentation by Jeremy Smith from The University of Western Australia's School of Anatomy, Physiology and Human Biology, who talked about Brain, Food and Fertility – subjects of great interest to the students.

The team competition was won by Perth Modern School, with St Mary's Anglican Girls School in 2nd place, followed by St Mary's College. The individual competition was won by Katie Roche from St Hilda's Anglican School for Girls Inc. Katie will compete in the national final of the Brain Bee at the 2014 ANS meeting in Adelaide. The fight for 2nd place in the individual competition required a tie breaker round that went for 20 minutes, and covered 15 questions. Throughout the nail biting session there was nothing to separate the two competitors and finally 2nd place was awarded to both Naina Akella from St Hilda's Anglican School for Girls Inc and Dominique Douglas-Smith of Santa Maria College.



Katie Roche

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the 2013 WA Brain Bee  
Champion.

## Upcoming Conferences

### The 3rd International Conference on Medical Bionics

*Silverwater Resort, Phillip Island, Victoria, Australia, 17-20 November, 2013*

This unique biannual conference attracts neural prosthesis researchers and clinicians from a broad range of disciplines. Topics include the design, development and commercialisation of neural prostheses; the electrode-tissue interface; cochlear implants; visual prostheses; cortical prostheses; and "blue sky" research. Guests of honour at this meeting include Dr David Money (first CEO of Cochlear) and Prof David Pennington (Chairman of Bionic Vision Australia). All attendees stay on-site at the Silverwater Resort in order to encourage interactions among attendees. Invited presentations and poster sessions are designed to create a collaborative, interactive environment. Student poster awards will be offered.

Website: <http://www.medicalbionics.org.au>  
For more information contact Rob Shepherd:  
[rshepherd@bionicsinstitute.org](mailto:rshepherd@bionicsinstitute.org)

### The 4th Australasian Cognitive Neuroscience Conference (ACNC)

*Monash University, Melbourne, November 28 - December 1, 2013*

The conference is the official annual meeting of the Australasian Cognitive Neuroscience Society, which is the major organisation dedicated to cognitive neuroscience research in both Australia and New Zealand. The conference program will feature several high profile international keynote speakers from the fields of psychology, developmental cognitive neuroscience, brain neuroscience,

genetics, neurology, and psychiatry. The work presented will cover the major methodologies used in human cognitive neuroscience research including MRI, EEG, MEG, TMS and psychophysics. The conference will provide a platform in which to highlight the most recent research findings, developments, challenges, and future opportunities.

Email: [cognitiveneuroscience@monash.edu](mailto:cognitiveneuroscience@monash.edu)  
Website: <http://www.med.monash.edu/psych/acnc/>

### The annual Brain Sciences UNSW Symposium

*University of New South Wales, Kensington, Sydney, 18 October 2013*

The theme for the 8th annual Symposium is The Interactive Brain: Translational Neuroscience. Translational neuroscience integrates research from the basic sciences, social sciences and political sciences, with the aim of optimising patient care and developing preventive measures, whilst at the same time transforming biological discoveries into new treatments and medical devices. This year, the Brain Sciences UNSW Symposium will provide an opportunity to hear Australian and International experts explore and develop a coherent model of the interactive brain, across its many dimensions. For program, speaker details and registration please view the website.

Website: <http://www.brainsciences.unsw.edu.au/BrainSciWeb.nsf/page/Symposium2013>

**The Federation of European Neuroscience Societies (FENS) Featured Regional Meeting 2013,**  
*Prague, Czech Republic, 11th - 14th September 2013,*  
Online registration and abstract submission is now open on the meeting website.

Website: [www.fensrmpague2013.com](http://www.fensrmpague2013.com).

### 31st International Australasian Winter Conference on Brain Research

*Copthorne Resort Hotel in Queenstown, New Zealand, 24-28 August 2013*

Details concerning conference registration, abstract submission, accommodation, and social arrangements, etc. Registration and abstract submission is available on the conference website

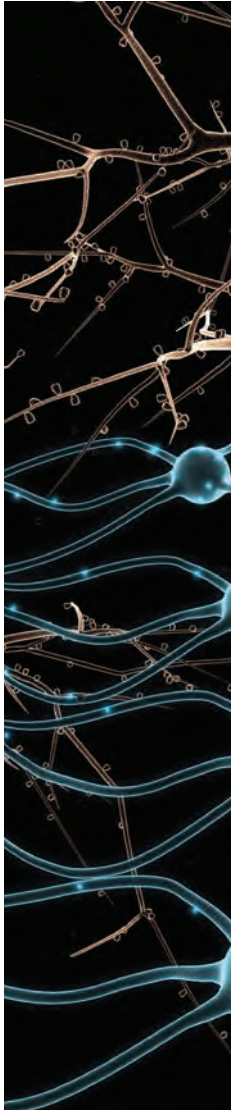
Website: ([www.awcbr.org](http://www.awcbr.org)).

### Toward a Science of Consciousness 2014

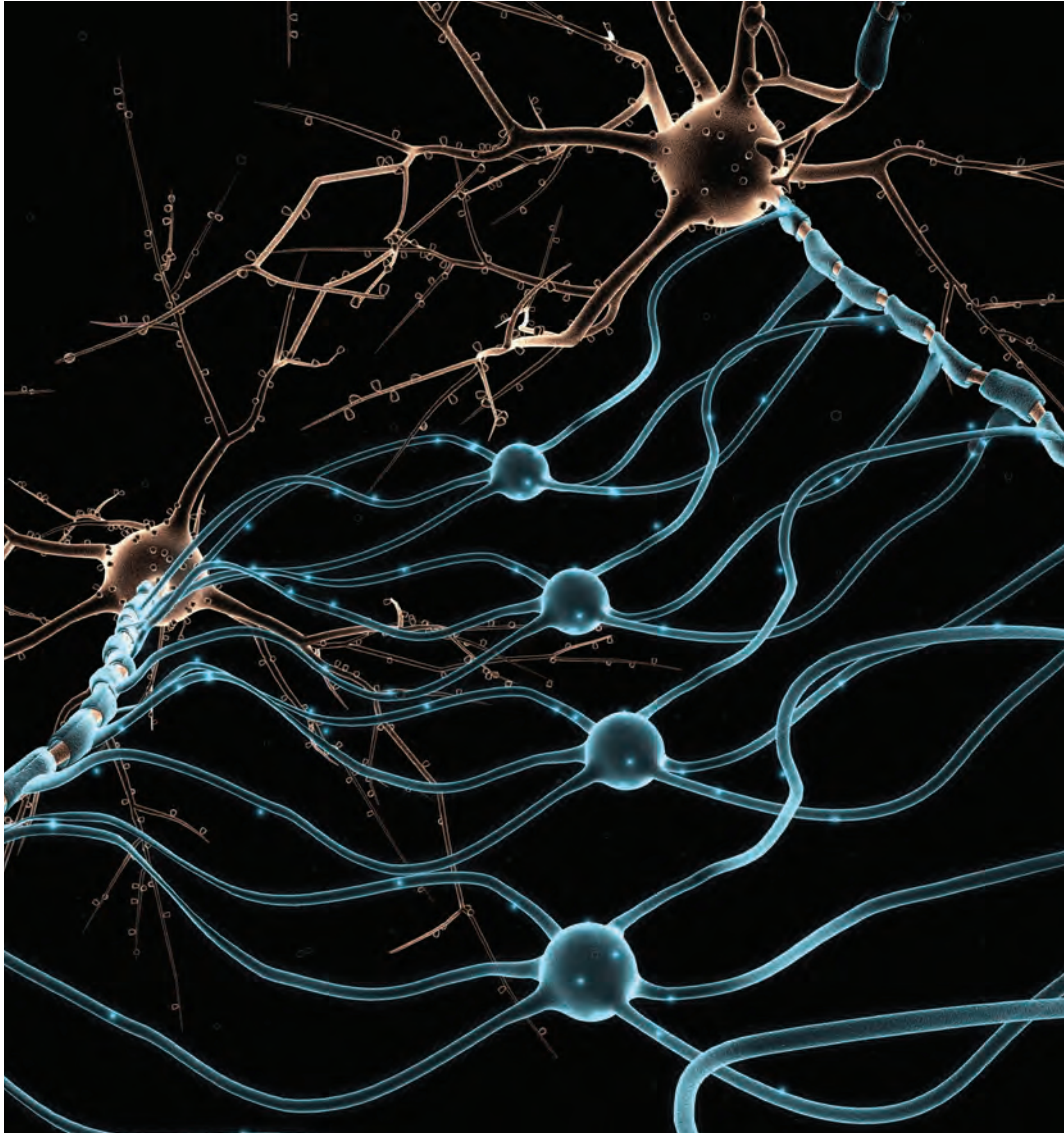
*Tucson, Arizona, April 21-26, 2014*

This is an interdisciplinary conference known for rigorous and leading edge approaches to all aspects of the study of conscious experience. These aspects include neuroscience, psychology, philosophy, cognitive science, artificial intelligence, molecular biology, medicine, quantum physics, and cosmology as well as art, technology, and experiential and contemplative approaches. The conference is the largest and longest-running interdisciplinary gathering probing fundamental questions related to conscious experience. An estimated 700 participants from over 60 countries are due to take part. As in previous conferences, program sessions will include plenary and keynote talks, concurrent talks, posters, art/science demos and exhibits, pre-conference workshops, side trips, and social events in the Tucson tradition.

Website: <http://www.consciousness.arizona.edu/>



# ANS Newsletter



We are always interested in receiving articles or information from ANS members for the newsletter. Such material could include topics for discussion, meeting announcements, meeting reports, news about prizes and awards received by ANS members, obituaries, and any other items of potential interest to members of our Society. The copy deadline for the next newsletter is 17th October 2013.

#### **ANS Policy on Requests for Publicity via Email Circulation**

The policy of ANS is to minimise email traffic to members. Advertisements for meetings and other significant announcements such as job vacancies can be added to the website and included in the newsletter if appropriate. Such requests should be directed to the ANS Secretary.

#### **Authorised by**

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