

April 2016



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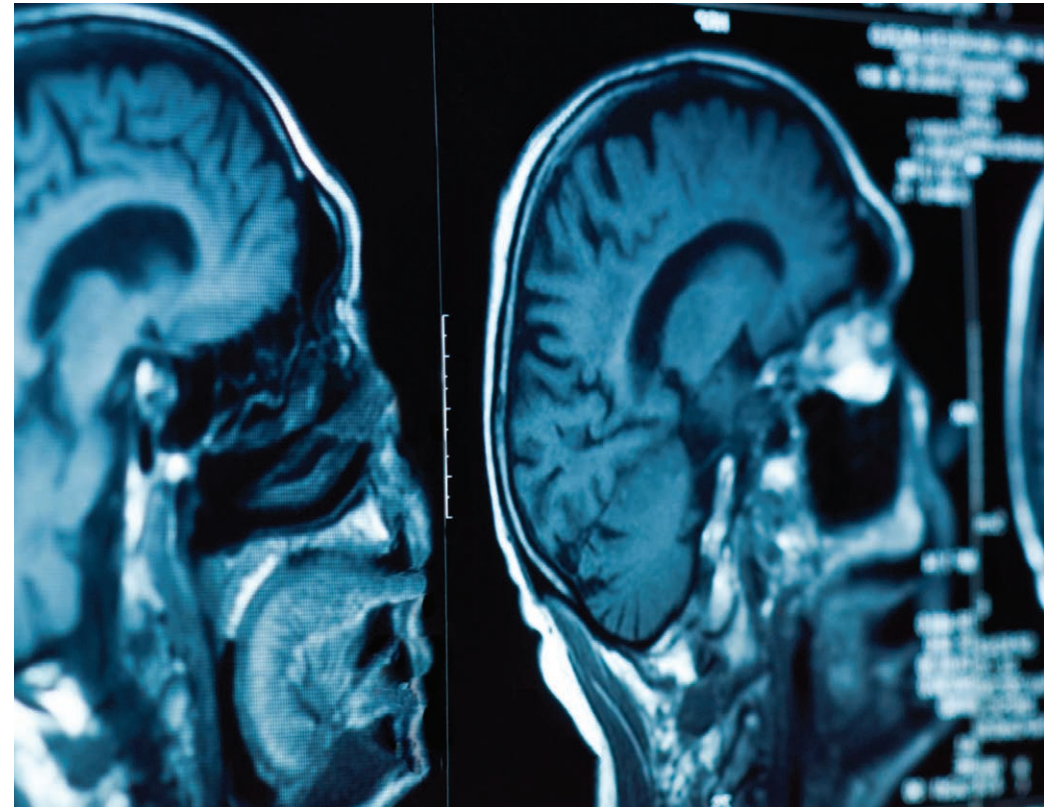
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# Australasian Neuroscience Society Newsletter



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## Message from the President

In Australia, the challenge of stagnant government funding for research through the NHMRC is an imminent threat to a vibrant neuroscience research community. However, there are opportunities to inform and stimulate new avenues of support, potentially through the Medical Research Future Fund and other national initiatives. It is imperative that ANS has a 'voice' at the table, working with other societies and organisations who are also keen to build neuroscience research capacity in the region.



**James Vickers**

*President, Australasian  
Neuroscience Society*

It is terrific to see that the Hobart ANS meeting is coming together. Many thanks to the ANS Council and the Local Organising Committee for establishing an exciting program. We look forward to having our first 'regular' meeting of the Society since Adelaide at the beginning of 2014. I would encourage Members to look at extending their stay later in the year to participate in satellite meetings, or to have a look around Tasmania. In this regard, feel free to contact local Tasmanian neuroscience researchers for advice on potential activities and adventures you could have around the meeting.

With the change in timing of the Annual Scientific Meeting, there has been a disaggregation with renewal of Membership. I would encourage past-Members who receive this newsletter to renew their Membership as soon as possible. In addition, we ask current Members and supporters to assist in encouraging colleagues and students to also renew their membership or join the Society. It has never been more timely for our Society to be in a strong position. This largely depends on whom we can say we represent, so a strong membership is vital.

In Australia, the challenge of stagnant government funding for research through the NHMRC is an imminent threat to a vibrant neuroscience research community. However, there are opportunities to inform and stimulate new avenues of support, potentially through the Medical Research Future Fund and other national initiatives. It is imperative that ANS has a 'voice' at the table, working with other societies and organisations who are also keen to build neuroscience research capacity in the region.

You may well ask what benefit does ANS Membership bring to the individual researcher or student? ANS has a rich history of delivering excellent scientific meetings across Australia and New Zealand. A major role for the ANS Council, working with Local Organising Committees, is to ensure that this annual meeting has a first-rate program. The Society supports international leaders in neuroscience research to participate as plenary speakers and in symposia. Students also receive financial support to attend the meeting. The Society also funds a number of annual and meeting awards, particularly for early career researchers and students.

ANS also has a lead role in oversight of the Australasian Course of Advanced Neuroscience, which has trained generations of early career researchers in cutting edge neuroscience techniques. ANS also has a significant role in supporting national outreach programs, such as the Australian Brain Bee Challenge, and has collaborations with both IBRO and FENS to support international programs and workshops that ANS Members have access to.

ANS is also entering into a new phase of increased advocacy on behalf of Members. With the assistance of our new Sustaining Members, the Florey Institute of Neuroscience and Mental Health, the Melbourne Neuroscience Institute, the Queensland Brain Institute and the Wicking Dementia Research and Education Centre, the Society is developing the infrastructure and capacity to more significantly promote neuroscience research. We would greatly welcome other organisational partners in this effort, so that we can expand activities in this area.

In addition to the regular newsletter, ANS also has an excellent website that is available for promotions, job advertisements and other notices by Members and our various partners. In this regard, our social media presence continues to grow across Australasia, with close to 2,000 followers on Facebook in just over 6 months of operation. If you have a news story that you would like the ANS to promote, please get in touch, and we can post to our web site and social media sites.

*(Message from the  
President...continued)*

Our thanks to Members who have renewed their membership. We would encourage all active neuroscience researchers to join, or rejoin, the Society, so that we can move forward our mission of excellence in neuroscience research across our region. Students and early career researchers are especially welcome to join and participate, and to help shape the future directions and activities of the Society.

Another important area of development within the Society recently identified by Council has been the need to champion the value of animal research in the neurosciences. Members may be aware of the recent Bill advanced by Senator Lee Rhiannon to amend the Environment Protection and Biodiversity Conservation Act 1999 to ban the importation of non-human primates. The purported rationale was to impede illegal international trafficking in non-human primate species, which is clearly something ANS and Members would also oppose. However, the proposed Bill would also ban any importation of non-human primates, including from established breeding facilities operating under contemporary ethical frameworks. This would have a disastrous effect on maintaining healthy breeding colonies in Australia, effectively bringing to a halt research on non-human species.

The proposal of this Bill and its consideration by the Senate Standing Committee on Environment and Communications was effectively travelling 'under the radar' of scientific organisations and societies until an alert on this was promulgated, including by our own Members, Professor Marcello Rosa and Associate Professor James Bourne. This led to a number of submissions from scientists and scientific organisations, with ANS submitting an opinion on behalf of its membership. It was pleasing to see that the US Society for Neuroscience also provided an excellent submission. James Bourne was invited to address the Senate Committee meeting, and delivered a strong defence of the value of non-human primate research. James's contribution and the submission of the ANS was noted in the Senate committee's final report, which recommended that the Senate not support the Bill. In particular, the report stated that 'The committee has considered the evidence received and believes that it does not point to a need for a ban on the import of primates for research. Moreover, the evidence indicates that there will be significant effects on biomedical research in Australia should a ban on imports be implemented.'

This near-miss in terms of a potentially significant disabling amendment to legislation points to the need of maximizing our surveillance in this area, and to advocate on behalf of the value of animal research for advances in neuroscience. To this end, the ANS Council has accepted a proposal by President-Elect, Professor Linda Richards, to establish positions on Council to advance the interests of the membership, which will include an

'Animals in Research Officer'. This position will work closely with the ANS and membership, and also with external organisations, to ensure that the Society promotes the highest standards for animal welfare, as well as the value of the use of non-human animals for neuroscience research.

**In this issue of the Newsletter, we are calling for new nominations for a number of State and New Zealand representatives. We hope that we can attract nominations from Members that are keen to advance our Society in a number of new directions that will develop not only ANS but help extend the reach and influence of the Society.**

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In terms of transitions, I would also like to thank Past-President, Professor Glenda Halliday, for serving as the ANS representative on the IBRO Asia-Pacific Regional Committee. ANS has put forward a worthy replacement, which we hope to be able to announce soon.

# ANS 2016 HOBART – Update

We are now only 8 months away from our next Annual meeting to be held in Hobart, 4 - 7th of December. Planning is well underway with the conference to be held on the waterfront at the Grand Chancellor Hotel, and the dinner to be held at MONA.

Our program is really taking shape and it already looks like it will be an exciting meeting. This year the ANS council received 43 symposium proposals which were considered at the March council meeting. In addition to the CVs of the speakers and the merit of the symposium applications, we also considered gender balance, the inclusion of early career researchers, and the participation of researchers from a variety of locations.

At the conclusion of this process 21 symposia were selected – covering a broad range of neuroscience research. The symposia are detailed below and add to our already established line up of excellent Plenary Speakers. The meeting website is now live and can be accessed via this link ( <http://www.aomevents.com/ANS2016> ). It will be continually updated as we approach the meeting and as new information becomes available, so please visit regularly.



## Finally a couple of dates to remember

**30th April 2016:** Become an ANS member by this date and you will receive an additional 5% discount off the standard ANS member conference registration rate ( <http://www.ans.org.au/membership/category/ans-membership> ).

**1st June 2016:** Conference registration & abstract submission opens ( <http://www.aomevents.com/ANS2016> )

We hope to see as many ANS members, old and new, at the meeting in December. It promises to be a great event – an opportunity to catch up with colleagues, start new collaborations, showcase your latest research, and hear the latest findings from a broad range of neuroscience research areas!

*Plenary Speakers and Symposia Topics overleaf.*

We look forward to seeing you in Hobart

Tracey &  
Kaylene



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(ANS 2016 HOBART  
...continued)

## Plenary Speakers

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**Professor Michael Hausser**  
ANS International Plenary

**Associate Professor Massimo Hilliard**  
ANS Plenary

**Professor David Small**  
Lawrie Austin Plenary

**Professor Jeffrey Rosenfeld**  
Eccles Lecture



## Symposia Topics

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- Exploring the role of zinc in cognition
- Genetic dissection of hypothalamic neural networks
- Blood, inflammation and neurodegeneration
- Pathophysiology of the Blood-Labyrinth Barrier
- Connecting the Dots: Understanding integrative brain function
- Motor Cortex Excitability In Health and Disease
- Current research approaches in animal models relevant to schizophrenia
- Autism spectrum disorders: from human genetics to animal models
- The Next Generation of Brain Machine Interfaces
- Integrated approaches to treating pain and other diseases of the central nervous system:  
From targets to circuits and beyond
- Neurophysiology and neuropathology at the nanoscale
- The cytoskeleton: leading the way in development and disease
- Neuron-glia interactions and gliogenesis in the CNS
- Spinal cord injury: from the bench to the bedside
- Vision in invertebrates: Decision making models, neural mechanisms, and quantitative behavior
- Ion channels in pain and epilepsy-genetics, function and toxins
- Protectors or destroyers? Decoding the function of microglia in ageing and disease
- Development of the Enteric Nervous System: Past, Present & Future
- The exciting life of neuronal dendrites
- Cognitive Training & the Aged Brain:  
Mechanisms, Disease - Specific Efficacy and How to do it at Scale
- Traumatic brain injury and the development of neurodegenerative diseases

# ANS 2017 in Sydney



The 37th Annual Scientific Meeting of ANS will be held at the new International Convention Centre (ICC) in Sydney from 3-6 December, 2017. The ICC is fully integrated with state-of-the-art facilities and is set alongside the water of Sydney's Darling Harbour. The opening of the ICC is scheduled for December this year. The new Convention Centre with its magnificent location will provide a stunning venue for the 2017 ANS meeting.

## Thomas Fath

*On behalf of the  
Local Organising Committee  
for Sydney 2017*

# Pending changes to Council and call for nominations for ANS Executive and Council positions

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Several positions on the ANS Executive and Council will become vacant at the 2016 AGM and nominations (including self-nominations) are now invited for these positions.

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After four years as Treasurer and Editor respectively, Andrew Allen and Steve Petrou will step down, and these executive positions will become open.

The ANS Council extends its sincere thanks to Andrew and Steve for their excellent service to the Society. The 2016 AGM will also see us thanking and farewelling James Vickers as he transitions to Past-President, as Linda Richards assumes his mantle as our new President.

We are also inviting nominations from eligible state or NZ members for the positions of state or NZ representatives on Council.

We extend our thanks to Jason Potas (ACT representative), Michael Piper (Queensland Representative; Helen Cooper is currently the interim representative), Stuart Brierley (South Australian representative), Chris Reid (Victorian representative) and Ruth Empson (NZ representative) for their service in these roles; they will be retiring from these positions at the AGM.

The NSW (Thomas Fath), Tasmania (Tracey Dickson) and WA (Stuart Hodgetts) representatives have all confirmed they will be re-nominating for these positions. John Bekkers (Public Officer) and Kay Double (Secretary) have also confirmed their re-nominations for their respective positions, which will also be elected at the AGM.

**If you are current member and interested in nominating for any of the above open positions, please email the Secretary with your name and contact details, stating the position for which you are nominating by October 24th 2016.**

**Should more than one nomination be received per position, a member vote will be held prior to the AGM.**



# 6th Australian Neurotrauma Forum Report

Recent media attention including the critically acclaimed movie “Concussion” highlight the inadequate and often undisclosed effects of traumatic brain injuries, as an ever-increasing medical issue that targets young people at the most productive period of their lives. In the US, significant funding has been poured into the neurotrauma research community as growing numbers of studies demonstrate the evolving and devastating impact of head injury. How is Australia contributing to neurotrauma research?

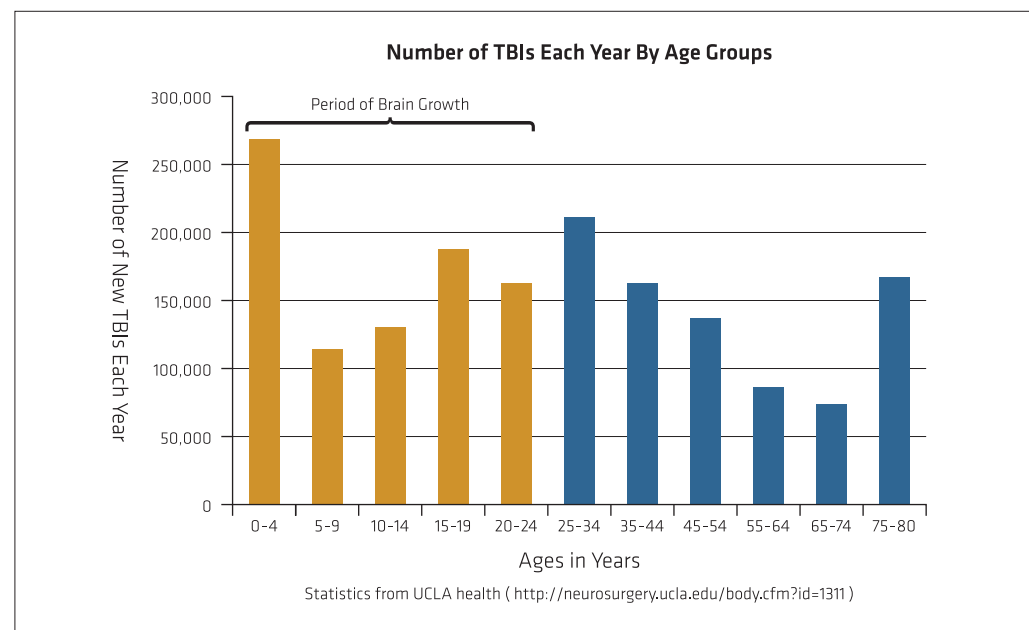


Figure 1

Scientists from across Australia gathered at the sixth annual Australian Neurotrauma Forum in Adelaide in October 2015. The overall goal is to discuss current and future research aimed at improving our understanding and treatment of various types of brain injuries. In addition, the Neurotrauma forum has a strong emphasis on providing a national platform for early career researchers to discuss current research themes.

Recurrent major themes such as understanding the role of inflammation in brain trauma and the growing consensus that injury is also associated with neurodegenerative diseases such as Alzheimer’s and Parkinson’s disease were covered. Emerging research in Australia is also looking at pediatric brain injuries and the significant influence of glial cells in post-injury responses.

Pediatric traumatic brain injury is poorly understood despite being a significant cause of death and disability among children (Fig 1). In this context, A/Prof. Ann Turnley (*The University of Melbourne*) demonstrated that even mild brain injuries to the neonatal mouse brain triggers a glial cell response that can subsequently lead to alterations in critical developmental pathways such as myelination. Dr. Bridgette Semple (*The University of Melbourne*) further discussed how rodent models can be used to investigate post-traumatic deficits in social behaviours, a common yet-understudied outcome for childhood survivors.



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*(6th Australian Neurotrauma  
Forum Report ...continued)*

Continuing the focus on age-related responses, Vythia Katharesan (the University of Adelaide) presented data indicating that age may also contribute to an altered inflammatory cytokine environment. Specifically, her results indicate that aging in rats is associated with a general decline in peripheral inflammatory cytokines and a general increase in inflammatory cytokines in the CNS.

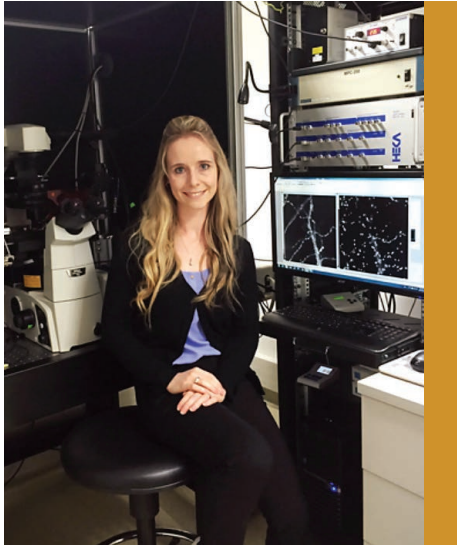
Therapeutics aimed at modulating glial cell reactivity to improve functional recovery after stroke or brain trauma is showing great promise. Exogenous administration of ephrin-A1, which competitively inhibits astrocyte reactivity induced by ephrin-A2/-A5, was highlighted by Dr. Leon Teo (Australian Regenerative Medicine Institute) as a novel therapeutic strategy to attenuate reactive gliosis and glial scarring after adulthood CNS injuries. Using a different approach, Mr. Ryan Doig (University of Western Australia) demonstrated that specific combinations of calcium channel inhibitors was shown to preserve glial and neuronal populations after oxidative insults and is linked to preservation of nodal structure in in vivo models of partial optic nerve transection. Interestingly, Dr. Frances Corrigan (University of South Australia) identified the significance of timing when targeting the inflammatory toll-like receptor-4, which can either be detrimental or beneficial following mild repetitive TBI depending on the timing of administration.

We congratulate and thank Prof. Robert Vink and his team for organising and executing such a great event, both intellectually and socially. In particular, the conference dinner at the Adelaide Cricket Ground, including a personal tour of the grounds, was a highlight for both our national and international attendees. The financial support provided by Prof. Vink, allowing substantially reduced costs for the dinner and no registration fees, makes the Australian Neurotrauma Forum a thoroughly inclusive platform for discussion among young neuroscientists in Australia. We look forward to 2016 when the Forum moves to Hobart.

Jerome Staal  
Bridgette  
Semple

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# Chantelle Fourrie attends course as part of the ANS-FENS Young Researcher Exchange Program



I attended the Cajal course in 'Advanced Techniques for Synapse Biology' for 3 weeks in October 2015. This was a life changing experience! The lecturers and instructors were of the highest calibre and included Nobel Prize winner Prof. Erwin Neher and FENS president Dr. Monica Di Luca, who shared their pioneering work and ideas in synaptic research – what an inspiration! Each morning of the course started with 2-3 lectures from celebrated scientists in the field of synapse biology, which always sparked interesting questions and discussions related to the work presented. There was a wide variety of current topics covered and I learnt so many new and interesting concepts in synapse biology, structure and function. Hereafter, all students and faculty had lunch together where we continued great scientific discussion and was also a place where new friendships and collaborations took shape. After lunch each day we embarked on learning state of the art techniques by performing our very own experimental projects. These projects were carefully chosen by each student before the course started. I specifically worked on two projects: “Dense core vesicle dynamics and release studied at single vesicle resolution” and “Single particle tracking of NMDA receptors in live neurons”. The experiments really provided me with hands-on training and also the opportunity to learn from the experts in the field. We worked with the best equipment and

software, which was a great privilege. Everyone presented their project work at the end so that we could learn from each other's experiences. The stimulating environment during the lectures and experiments particularly helped me form novel research ideas and questions and provided me with the skills to address these in my future independent research. We also enjoyed a couple of social events to take a break from the hard work and to spend time with fellow course attendees. This course had the right amount of structure and freedom at the same time to explore experiments, research questions and techniques that I was personally interested in. For me each day at this course literally sparked a new and exciting research idea. This course is not for the faint hearted – it was very intense, hard work and long hours but in the end incredibly satisfying! I am greatly thankful to the Cajal course organisers, sponsors and faculty that made it possible for me to attend this course, which will continue to influence and shape my career in neuroscience.

Chantelle  
Fourrie

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# ANS-FENS Young Researcher Exchange Program Report

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## Call for applications from ANS members

ANS, in collaboration with the Federation of European Neuroscience Societies (FENS), support under the Young Researcher Exchange Program (YREP) travel of young researchers to attend research training in a laboratory in Europe or to attend an approved training course in Europe. Total stipends to the value of €2000 are awarded to cover partial travel costs and accommodation expenses during the training period which must have a minimum length of two weeks. YREP stipends can be complementary to other financial support such as support from the sending and/or receiving laboratory\* or obtained by the student for the course participation. Applicants must be Masters or PhD students or Early Career Researchers up to three years postdoc. All applicants from Australasia must be current members of ANS.

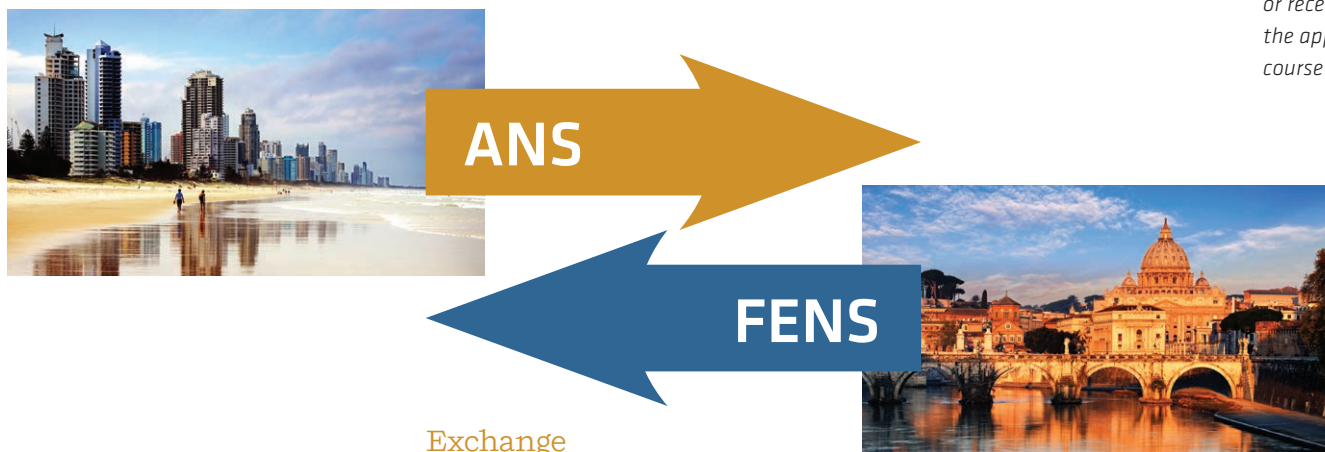
Deadlines for application are twice annually (25th April and 15th September) and further information, including the application form, can be obtained at:

- <http://www.fens.org/Training/Training-Grants-and-Stipends/NENS-Grants/Young-Researchers-Exchange-Programme/FENS-ANS-Programme-2016/>

Applicants from Australasia must send their application directly to FENS ( [nens@fens.org](mailto:nens@fens.org) )

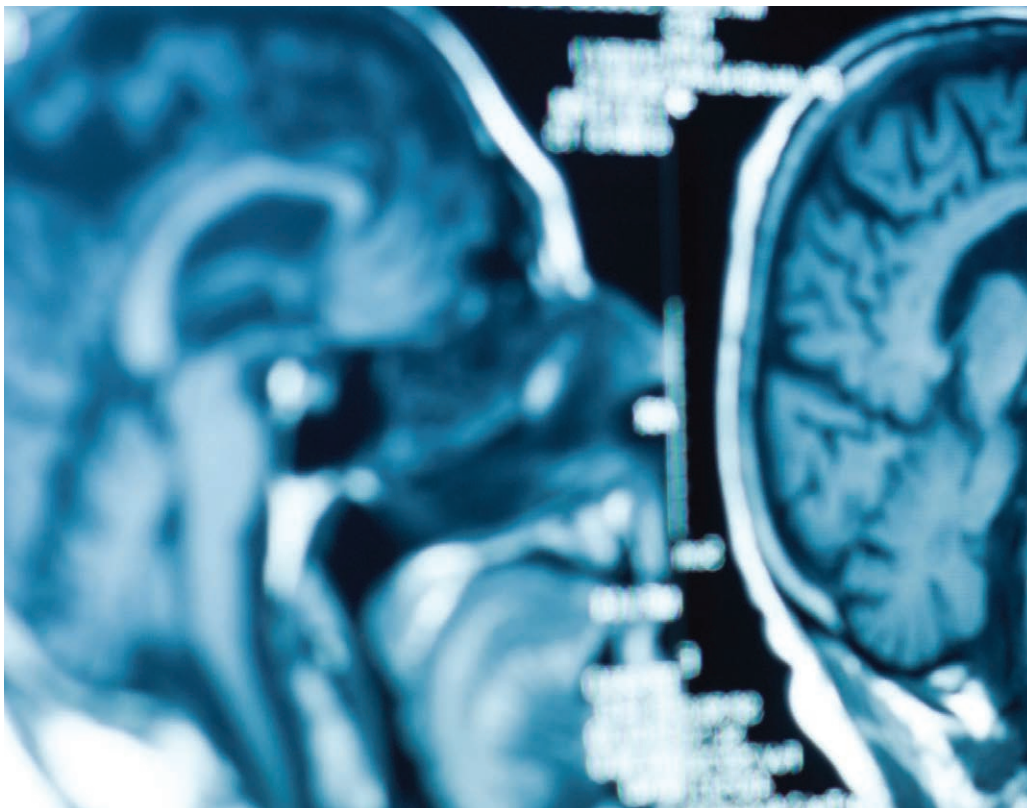
Note that an equivalent scheme is available for young researcher members of FENS societies to attend training courses or research training stays in Australasia.

\* *FENS and ANS encourage a contribution of up to a maximum of €500 from the sending or receiving laboratories to the expenses of the applicants or that course organisers waive course fees up to a maximum of €500.*



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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 3 June 2016.

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**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.

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