

April 2018



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[www.ans.org.au](http://www.ans.org.au)

## Australasian Neuroscience Society Newsletter



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## Message from the President

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“There is nothing better than being the first person to discover something new about the brain, and contributing to global knowledge aimed at cracking the last frontier - how does it really work?” Prof. Glenda Halliday, NHMRC Senior Principal Research Fellow, The University of Sydney, former ANS President.

“The brain is who we are and will determine what we become and how we get there. Understanding how it functions will ensure we transit to a better world.” Prof. Perry Bartlett, Foundation Professor of Molecular Neuroscience University of Queensland, former Director, Queensland Brain Institute, former ANS President.

Can you come up with an inspiring neuroscience quote? I'd love to hear it ([richards@uq.edu.au](mailto:richards@uq.edu.au))

The past few months have been busy for the ANS Executive and Council. You will find in this issue a draft strategic plan for ANS. This plan is based on the feedback we received from ANS members in our 2017 survey. We welcome your feedback on this plan, which maps out the goals of ANS and what Council aims to achieve in the next five years. A strategic plan is an important starting point from which to benchmark our activities and provide a detailed outline of where we want to be in five years. This is a working document and will be updated by future ANS Executive and Council members as needed.



Prof Linda  
Richards

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*PhD, FAA, FAHMS  
President, ANS*

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

### **Annual Meeting, Brisbane 2018**

The ANS annual meeting committee, co-chaired by our Editor A/Prof Helen Cooper and local organising committee chair Prof Joe Lynch, has been busy organising the annual meeting to be held in Brisbane on December 3-6. We have secured a wonderful venue and sponsorship from the Brisbane Convention and Exhibition Centre and have a stellar line-up of plenary speakers. The meeting promises to be amazing and I encourage all members to support the society in attending the meeting. To assist with this, ANS Executive have reduced the registration fees for student members as follows:

- Student Early Bird, from \$455 to \$355
- Student Standard, from \$555 to \$455
- Student non-ANS member, from \$625 to \$575

ANS have also reduced the annual ANS student membership fee from \$70 to \$40.

### **Sponsorship**

Another activity that ANS Executive and Council have been engaged in is to develop an integrated sponsorship prospectus. This prospectus is now available on the ANS meeting and events site. The rationale is to have one prospectus that covers all of ANS's activities, including the annual meeting, ACAN and Brain Bee. We rely immensely on the support of our sponsors and we want to provide a transparent mechanism and better value for money for their sponsorship.

### **Membership**

Regarding our calendar year membership cycle, members are encouraged to renew their memberships in January each year to take advantage of a full year's membership. Those renewing in December for the annual meeting will only be a member until the end of that year. Renew your membership now if you haven't done so already to take advantage of the member benefits on offer. The three-year memberships for full members are a great way to ensure your membership never lapses, while at the same time giving you cost savings.

### **Website**

ANS members may have been affected recently by changes to our website. Unfortunately, we experienced some difficulty with the website designer we engaged last year to transfer the website to use new software and update its capabilities. The designer we engaged did not deliver the website and has since provided a full refund. We have engaged a second design company who are working hard to get the website functional. We are working on the conference website at the moment so we ask for your patience as we iron out these issues. In the longer term the new software will provide a one-stop shop for members as it enables the integration of the conference management with ANS membership activities. We sincerely apologise for any confusion or issues you may have encountered during the ANS website transition.

### **Brains on the Hill**

A number of ANS members were recently involved in our campaign to establish an Australian Brain Initiative by participating in "Brains on the Hill." This event provided us with a way to directly engage with parliamentarians at Parliament House in Canberra. We met with 77 Senators and MPs, and we showed our representatives that the Australian Brain Initiative is integral in preparing Australia for the next century.

I was incredibly impressed, as was the Chief Scientist Alan Finkel, by the neurotechnology showcase that was set up in the Mural Hall for the three-day event. A number of EMCRs participated in the event and it was impressive to see the depth of talent we have in Australian neuroscience.

We also held a Parliamentary Friends of Science and Questacon event that highlighted Australia's neuroscience capabilities. Professor George Paxinos launched the new edition of his rat and developing mouse brain atlas at the event which was another wonderful way to showcase Australian neuroscience to our Government. Thank you and well done to everyone involved.

**You can help the campaign by becoming a Brain Champion - to join, just visit <https://www.brainalliance.org.au/join-us/>**

This is an important way to show your support for an Australian Brain Initiative.

# Brisbane Meeting



## Helen Cooper

Editor Australasian  
Neuroscience Society

The ANS annual scientific meeting will be held at the Brisbane Convention and Exhibition Centre between **Monday 3rd and Thursday 6th December 2018**.

In order to encourage more of our students to take advantage of the opportunities offered by attendance at the annual meeting, the ANS Executive and Brisbane Organizing Committee are pleased to inform the membership that all student registrations for the 2018 meeting will be reduced.

*Registration for students who are members of the Society will be reduced by \$100 in comparison to previous years.*

Student travel awards, administered by the ANS Student Committee, will continue to be available. Information regarding these awards can be found on the conference and ANS web pages under *Information for Students*.

*Members will also be pleased to note that lunch will be included in all registration costs this year.*

Hope to see everyone in Brisbane!

### Important Dates:

Please put the following dates in your diary:

- Registration Opens / Abstract submission: July 1st 2018
- Oral submission deadline: August 31st 2018
- Early bird registration closes: August 31st 2018

### 2018 Student registration (including lunch)

Early bird member: \$355  
Full member: \$455  
Non-member: \$575

### 2018 Full registration (including lunch)

Early bird member: \$650  
Full member: \$780  
Non-member: \$950

### 2018 Retired registration (including lunch)

Early bird member: \$455  
Full member: \$546  
Non-member: \$636

## AW Campbell Award – Susanna Park

The AW Campbell Award is presented to a member of the Society who makes the most outstanding contribution to neuroscience in their first 5 postdoctoral years. The 2017 AW Campbell awardee is Dr Susanna Park, University of Sydney.



**Susanna Park**

University of Sydney

Susanna's research focuses on the development of neurophysiological and functional assessment measures of nerve and cognitive function, across a spectrum of toxic, inflammatory and inherited neurological disorders.

Susanna commenced her research in electrophysiology at the Australian National University, completing honours at the John Curtin School of Medical Research, investigating cholinergic modulation of excitability in the prefrontal cortex. The calibre of her research was identified early and she graduated with the University medal.

Susanna subsequently translated her neuroscience knowledge into human and patient research, commencing her PhD studies in my clinical unit in 2007, jointly based at the Institute of Neurological Sciences, Prince of Wales Hospital and Neuroscience Research Australia. Susanna quickly adapted from a wetlab environment to the complexities of patient involvement, many of whom were battling for survival. It was testament to her caring approach that patients continued to drop by to visit Susanna well after they had recovered from life threatening conditions, to provide personal and family updates.

Susanna graduated with her PhD from the University of New South Wales in 2010 with universally glowing reviews from international referees. Her research identified a novel mechanism of nerve dysfunction in oxaliplatin-treated patients, which was published in leading journals including the *Journal of Clinical Oncology* and *Brain*. By establishing the feasibility of neurophysiological techniques in the oncology setting, these studies provided a platform for significant international collaborations, supported initially as an NHMRC Overseas Biomedical (CJ Martin) Fellow at the Institute of Neurology, University College London (2011-2013). Susanna was ranked the top applicant in Australia for this prestigious award, and as a result was also selected as the RG Menzies Biomedical Fellow by the Menzies Foundation.

Since returning to Australia in 2014, Susanna has been awarded >\$5 million in competitive research funding for clinical neuroscience projects, including co-lead CI on a Cancer Institute NSW Translational Program Grant (2015-2020) and lead CI on an NHMRC project grant (2015-2019) to examine clinical translation, assessment strategies, treatment and risk factors for chemotherapy-induced peripheral neuropathy.

Most recently, Susanna was awarded an NHMRC RD Wright Biomedical Career Development Fellowship to further support her research into risk factors and treatments for neurological disease. Her research output has been prodigious, having already published 65 peer-reviewed manuscripts across the highest impact neuroscience, medical and clinical oncology journals.

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*(AW Campbell Award –  
Susanna Park ...continued)*

Susanna's research has been underpinned by a clinical translational focus, seeking to implement novel assessment tools into clinical practice and clinical trials, with great success. As part of her translational program grant she has established a national network of centres, with a further aim to introduce a framework to guide policy for current and future studies. A strong focus has related to the clinical application of nerve excitability techniques, with a particular focus on chemotherapy induced peripheral neuropathy, a common and distressing complication in cancer survivors.

Her contribution to neuroscience is further illustrated by the growing research program that has been driven from her research and advocacy. In addition to her scientific achievements, Susanna manages an ever increasing realm of commitments including raising a young family in Sydney. Susanna's trajectory has been further recognised through appointment as Senior Lecturer in Physiology at the University of Sydney, based at the Brain and Mind Centre.

## Prof Matthew Kiernan

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*Bushell Chair of Neurology, Uni.  
of Sydney, Co-Director, Brain  
and Mind Centre*

# Mark Rowe Award – Brendan Bicknell

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The Mark Rowe Award is for the best paper published by a PhD student or postdoc within 3 years of the award of PhD. The Award for 2017 was presented to Brendan Bicknell, a PhD candidate at the Queensland Brain Institute, for his publication: Bicknell BA, Goodhill GJ. "Emergence of ion channel modal gating from independent subunit kinetics", *Proc Natl Acad Sci USA* 113: E5288-97 (2016).

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**Brendan Bicknell**

The Mark Rowe award winner  
for the best paper.

Brendan began a degree in ecology at the University of Queensland (UQ) with the hope of saving bee populations around the world from collapsing. Four years later, one thing had led to another and he finished with a degree in mathematics instead. Along the way Brendan picked up an interest in theoretical neuroscience and later chose to pursue a PhD at the Queensland Brain Institute in the area. Supervised by Geoff Goodhill (UQ) and Peter Dayan (University College London), he spent his PhD working on a range of problems in cell signalling, and during this time I had the pleasure of meeting him.

Brendan's scientific work rests on the philosophy that theories in biology ought to be quantitative, analogous to the theoretical foundations of the physical sciences. While for many biological systems a catalogue of important molecules have been thoroughly characterised, a great deal of further insight can be gained with a coherent quantitative theory that unites their interaction, or that situates them in an appropriate mathematical context. Brendan's previous work, for instance, revealed important subtleties in how

the dimensionality of a diffusion process imposes fundamental constraints on the precision with which a cell can measure its chemical environment.

In the paper for which he received the Mark Rowe award, Brendan wanted to understand the calcium signalling dynamics that control axon guidance.

"A key component of this is the inositol 1,4,5-trisphosphate receptor (IP3R) channel, which releases a lot of calcium into the cell when the right combination of factors cause the channel to open," said Brendan. "A curious feature of IP3R behaviour is that it slowly switches between distinct levels of activity (known as modal gating), which had previously lacked an explanation." As part of his PhD work, Brendan built a mathematical model of the channel, and in doing so uncovered a new principle that can explain this behaviour, and that makes the first testable predictions as to its biophysical origin.

"The basic idea is that when a channel is comprised of protein subunits with binding kinetics and conformational changes that span a range of



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*(Mark Rowe Award – Brendan  
Bicknall ...continued)*

timescales, then modal gating can arise quite naturally from the way the subunits combine to open the channel.”

Brendan was recently awarded a prestigious Newton International Fellowship to do a postdoc with Michael Häusser at UCL.

“I am working on dendritic integration, trying to understand how the nonlinear interactions within dendrites might allow single neurons to learn and compute,” said Brendan. “The ultimate aim is to look at the effect of this at the network level, and, if we are lucky, contribute to bridging the gap between biological and artificial neural networks.”

Marcus  
Triplett

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*PhD student, QBI*

## Nina Kondelos Award – Ulrike Grünert

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The Nina Kondelos Award is presented annually to a female neuroscientist for outstanding contributions to basic or clinical neuroscience research. The Award was made possible by a donation to the Society by Professor George Paxinos and is named after his late sister. The Nina Kondelos Award recipient for 2017 is Associate Professor Ulrike Grünert, University of Sydney.

Ulrike (Uli) has made outstanding contributions to our fundamental understanding of visual neural circuits.

*It has been incredibly inspiring to follow Uli's career, and she has been a role model in balancing parenting and research, including supervision, grant and manuscript writing, while still finding time for microscopy*

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*(Nina Kondelos Award – Ulrike  
Grünert ...continued)*

Her students credit her ability to make it look effortless to be “organised, precise, thoughtful, thorough and dedicated.”

Uli’s interest in biology began as a child exploring the outdoors studying insects, tadpoles and lizards. After undergraduate training specialising in zoology and neuroscience, she completed an Honours and a PhD investigating mechanoreceptors in insects and spiders (1985, University of Frankfurt). It was during her postdoctoral fellowship at the Marine Neuroscience Laboratory (University of Florida) that she decided to pursue a scientific career. Here, she spent the days studying the “nose” of spiny lobsters, while she spent the nights writing up her PhD publications. Uli remembers that after this experience, “I decided that I would not delay writing up results ever again”, advice she has imparted on all of her students.

Uli was offered a group leader position by Professor Heinz Wässle (then Director of the Neuroanatomical Department at the Max-Planck Institute for Brain Research, Frankfurt, Germany) after they met at a conference in 1987. There Uli studied the neuroanatomy of the mammalian retina, publishing more than 25 papers, while teaching at the University of Frankfurt and obtaining her “Habilitation.” She met her collaborator and future husband, Paul Martin, who convinced her to move to Sydney in 1994, thus bringing her outstanding

research to our shores. Uli reflects that “moving is good, because it forces you to breathe fresh air.”

The fresh air led Uli’s research towards the qualitative and quantitative analysis of New World marmoset monkey retina, first at the University of Sydney, then at the National Vision Research Institute in Melbourne (2003-2010), then at the Save Sight Institute at the Eye Hospital Campus of the University of Sydney (since 2010). Access to post mortem human eyes at her current institute has now enabled Uli to establish the only laboratory worldwide with developed methods to quantify neural connections in the human retina.

Uli’s contributions characterising the neuroanatomy of the macaque retina, scotopic pathways, neurotransmitters and receptor localisation in the mammalian retina, as well as analysis of marmoset and human retina, have provided a solid foundation that underpins much of today’s research into retinal neuroscience. She has 97 publications with more than 6500 citations, and her research quality, integrity and professionalism remain an inspiration to her colleagues and the researchers she has mentored and trained over the past 30 years.

**Patricia Jusuf**

*University of Melbourne*

## Apply for Annual ANS Awards

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**Applications close July 2nd 2018 – Apply now!**

Each year the Society grants a number of prestigious Awards to members at various levels for achievements in research. These include:

- The Mark Rowe Award for the best publication by an early career researcher member of the Society (PhD student or up to 3 years postdoc)
- The A.W. Campbell Award which recognises the best contribution by a member of the Society in their first five postdoctoral years
- The Nina Kondelos Prize which is awarded to a female neuroscientist for an outstanding contribution to basic or clinical neuroscience research
- The Paxinos-Watson Award which recognises the most significant neuroscience paper published by any member of the Society

These prestigious Awards enhance your CV, look great on your wall and are accompanied by a monetary prize, so please consider applying or encourage your students and mentees to apply. The winners of the A.W. Campbell and Nina Kondelos Prizes will also be invited to present plenaries at the 2019 ANS conference.

The ANS website gives all the details about these Awards, including how to apply. All applications should be emailed to the ANS Secretariat ([secretariat@ans.org.au](mailto:secretariat@ans.org.au)). Questions about the Awards should be directed to the Secretary, Assoc Prof Kay Double at [kay.double@sydney.edu.au](mailto:kay.double@sydney.edu.au)

*Applications close by COB July 2nd 2018.*



## STA Superstar of STEM – Muireann Irish

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Associate Professor Muireann Irish, from the Brain & Mind Centre at the University of Sydney, has spent the last year as one of 30 participants in the inaugural Superstars of STEM Program. The Program aims to provide positive female role models to young girls to pursue careers in science, technology, engineering and mathematics (STEM).

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Muireann Irish [Centre] with members of her group

Over the last year, Muireann has availed of media opportunities and outreach initiatives to shatter the stereotypical view of 'what a scientist looks like'. The Superstars Program further enabled her to attend Science Meets Business and Science Meets Parliament, establishing relationships with key stakeholders and policy makers.

As a cognitive neuroscientist and staunch advocate for women in science, Muireann says she is delighted to have participated in the Superstars Program.

“Young girls are increasingly exposed to disheartening messages regarding the stark underrepresentation of women in science, and the ‘leaky pipeline’ of academia. I particularly enjoyed connecting with local high schools to promote science careers as viable pathways for young women and to increase the visibility of relatable role models in the media.”

Muireann is also a mentor in the L’Oréal-UNESCO For Women in Science and the New York Academy of Sciences “1000 Girls 1000 Futures” programs. She gives the following advice for female early career researchers in science:

“I think it’s important to realise that we can all play an active role in shaping our careers. Women tend to be particularly risk averse but some of my riskiest projects have been my greatest successes, so I always advise women to step outside their comfort zone and to try new things.”

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**Stephanie Wong**

*Brain & Mind Centre and  
School of Psychology,  
University of Sydney*

## ANS Members recognised in Australia Day Honours

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### **Member [AM] in the General Division**

*Professor Norman Saunders, University of Melbourne,*  
"For significant service to medicine in the field of neuroscience through research into spinal cord injuries and mechanisms protecting the developing brain, and to sailing."

Professor Robert Vink, University of South Australia,  
"For significant service to medicine, particularly in the field of neurotrauma, as a researcher, author, educator and advocate, and to the community."



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Professor  
Norman Saunders AM

### **Companion [AC] in the General Division**

*Professor Jeffrey Rosenfeld, Monash University,*  
"For eminent service to medicine, particularly to the discipline of neurosurgery, as an academic and clinician, to medical research and professional organisations, and to the health and welfare of current and former defence force members."



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Professor Robert Vink AM

### **Officer [AO] in the General Division**

*Emeritus Professor David Ames, University of Melbourne,*  
"For distinguished service to psychiatry, particularly in the area of dementia and the mental health of older persons, as an academic, author and practitioner, and as an advisor to professional bodies."



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Professor Jeffrey Rosenfeld AC

# 2018 FENS Forum, Berlin

## Special opportunities for ANS members

This year ANS agreed on a new arrangement with the Federation of European Neuroscience Societies (FENS) to support exchange of members between our societies. As part of this arrangement, ANS members will be able to attend the 2018 FENS conference, or Forum, in Berlin from the **7th to the 11th July** at registration rates equal to that of local FENS members. Thirty-six ANS members have already taken advantage of this opportunity and have registered for Forum at the FENS member Earlybird rate.

Also attending will be the two winners of the ANS travel scholarships to FENS for 2018, Dr Malinda Tantirigama, a postdoctoral researcher at the Australian National University, and Yukti Vyas, a PhD student at the University of Auckland. Malinda and Yukti will each receive €2000 towards their travel costs. Congratulations Malinda and Yukti!

While the deadline for the Earlybird Registration for FENS has now passed, it is still possible for ANS members to register for the meeting at the ordinary FENS member rate.

To take advantage of this opportunity, please register your interest with the ANS Secretariat ([secretariat@ans.org.au](mailto:secretariat@ans.org.au)) including your name, institution, email address and your ANS member category (that is, ordinary membership or student membership etc.) by COB **Monday 11th June**. We will provide this information to the FENS office, which will contact you soon after this date with information on how to register at the special registration rate. Note you must be a current financial member of ANS to benefit from this offer.

**Kay Double**

*ANS Secretary*



ARC Centre of Excellence for  
Integrative Brain Function

**FENS** | Federation of  
European  
Neurosciences  
Societies

## FENS Satellite Meeting: Receptive Fields

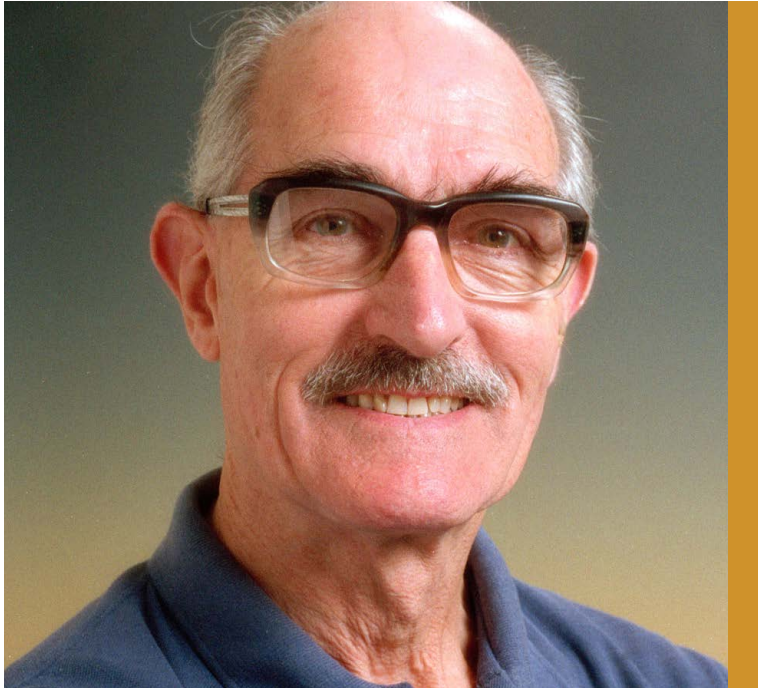
The ARC Centre of Excellence for Integrative Brain Function (CIBF) will be co-sponsoring a satellite meeting, entitled “Receptive fields: Analysis, models and applications”, in association with the 2018 FENS Forum in Berlin.

Leading researchers will discuss the latest advances in the formation and analysis of visual receptive fields and place maps. Keynote speakers include Tatyana Sharpee (Salk Institute, USA), Yves Fregnac (CNRS, France), Elizabeth Zavitz (Monash University) and Simon Schultz (Imperial College, UK).

The meeting will take place on **Friday 6 July 2018** at a venue in central Berlin. For further information, email Tenille Ryan ([tryan@aco.org.au](mailto:tryan@aco.org.au)) or visit: <https://forum2018.fens.org/forum-programme/satellite-events>

## William (Liam) Burke (1922 – 2018)

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Liam Burke,  
taken in 1993

William (Liam) Burke was born on 21 April, 1922 in Liverpool, in the United Kingdom, the oldest child of Irish parents. He spent many childhood summers in Ireland, working on his uncle's farm and becoming fluent in Gaelic; that Irish identity remained strong throughout his life.

His academic training began in 1940 with his enrolment at the Liverpool Technical College and later the School of Pharmacy of the University of London. From 1946 till 1948, Liam served as pharmacist-dispenser in the Royal Air Force.

After military service, Liam enrolled in science at University College London. He completed his BSc in 1952 and was invited to join, as a PhD student, the laboratory of Bernard Katz, later (1970) a Nobel laureate in Physiology.

Liam's first research papers were published in 1953 and 1954, after work at the Marine Biological Laboratory at Plymouth. They described the effects

of quaternary ammonium ions on crustacean nerve fibres and the organ of proprioception and vibration sense in the mud crab, later known in the field as 'Burke's organ'. Also during his PhD, Liam established a life-long friendship with the biophysicist Bernard Ginsborg and together they published two much-cited papers on the neuromuscular transmitters of vertebrate (frog) slow muscle fibres. Liam was the single author of the last paper in the series (on spontaneous potentials in slow muscle fibres), published in 1957.

His PhD completed, Liam found two opportunities in Australia, a postdoctoral fellowship with J.C. Eccles (1963 Nobel Laureate in Physiology) at the Australian National University and a tenured teaching/research position with P.O. Bishop in Sydney. Mindful of his young and growing family, Liam opted for Sydney, joining the Department of Physiology in September 1956. There, for 60-odd years, his work focussed on the mammalian visual system, until the very last study, which took him back to marine biology.

From 1956, in a productive collaboration with Bishop, Liam led ground-breaking work on the functional organization of the principal visual relay nucleus of the thalamus, the dorsal lateral geniculate nucleus, describing the effect of disuse on synaptic efficiency, inhibitory mechanisms within it, and the excitability of the nucleus in alertness and sleep. His collaborators in this fruitful period included a distinguished neuroanatomist, William Hayhow and several gifted research

Liam was an inquisitive, even demanding student and Katz a demanding supervisor, but theirs was a successful interaction, whose interactive style Liam followed with his many research students in Sydney.

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*(William (Liam) Burke  
(1922 - 2018) ...continued)*

students (Ross Davis, Ann Sefton, Sandra Rees, Lynne Cottee) who went on to distinguished careers in neuroscience.

In 1967, when Peter Bishop left Sydney to succeed J.C. Eccles at the ANU, Liam succeeded Bishop as Head of Physiology at Sydney, a position with broad teaching and administrative responsibilities. Liam was a learned teacher for his classes in courses in Medicine, Science, Veterinary Science, Pharmacy and Dentistry, but his lectures and classes are also remembered as engaging and entertaining; he was gifted teacher.

In the 1980s - 1990s Liam worked with a new generation of gifted young collaborators (Paul

Martin, Tom FitzGibbon, Chun Wang) and with one of us (BD), exploring the power and limits of the idea of parallel processing in the visual pathways. In late 1990 to early 2000s his work broadened to the study of the plasticity of the visual cortex, psychophysical observations on perceptual effects of a foveal lesion in his own eye and the role of 'feedback' pathways in determining properties of neurones in visual cortex. At 80 years of age, in 2002, Liam published an hypothesis of the neural basis of visual hallucinations, which attracted much interest among neurologists.

Perhaps the most important paper of Liam's 30 years of work after retirement was the very last. Published with the marine biologist Maria Byrne, it explored the effect of the moon, detected by

Liam's detailed understanding of its cycles, on the spawning behaviour of corals, long known to spawn simultaneously on a not-quite-predictable day in Spring. Liam had learnt to understand the lunar cycles in an earlier study of the acuity of his own retinas; and he proposed a similarly complex analysis for corals, saying 'but I need the data'. These Maria gladly organised and Liam pursued the analysis over two years before the result became clear. The paper appeared just days before Liam's death on February 10, 2018, too late for him to see its final form, or to learn of the excitement it quickly elicited in the field.

This discovery, which crowned his long, productive life, was a tribute to his insight, tenacity and enduring interest in the nature of the world around him. All who knew Liam appreciated his extraordinary combination of scientific rigour with lack of pomposity, friendliness, humour, and scientific wonder. He filled a special place in our collegiate life.

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Liam Burke with many of his ex-students and colleagues celebrating his 95th birthday, University of Sydney, 21 April 2017.



**Bogdan  
Dreher**

*Professor Emeritus of Visual  
Neuroscience in Anatomy &  
Histology, Sydney University*

**Jonathan  
Stone**

*Professor of Retinal and  
Cerebral Neurobiology,  
Discipline of Physiology,  
Sydney University*



## Neuroscience in Antarctica

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PhD student Rachelle Balez, from the University of Wollongong, recently swapped her lab coat for a down jacket when she travelled to Antarctica as part of the women in science leadership initiative, Homeward Bound. Here, Rachelle reflects on her Homeward Bound journey, shares some of the lessons learned and what it was like to visit the bottom of the world.

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Homeward Bound is an Australian born leadership initiative that aims to create a *1,000-strong global collaboration of women with a background in science to lead, influence and contribute to policy and decision-making within the next 10 years*. The reason? Despite research indicating that gender balanced teams solve problems more effectively and work more efficiently, in Australia alone, women make up only 16% of top-level science and technology researchers. This is concerning as 50% of PhD students and junior lecturers in science are female. When I heard about the Homeward Bound initiative I applied immediately as I don't want myself, nor my female colleagues, to fall victim to this statistic.

As part of the 2018 Homeward Bound cohort, I was selected as one of 80 women from across 17 countries and multiple disciplines, including physicists, climate scientists, policy makers, and ecologists. This presented a unique opportunity



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*(Neuroscience in Antarctica  
...continued)*

to work and learn from a culturally rich and knowledge diverse collective. Over the last 12-months, I have engaged with one-on-one leadership coaching, learnt new teaching and communication strategies, as well as worked on collaborative projects to address challenges faced by women in STEM. These workshops set the foundation for the main program content which was delivered during a 3-week voyage along the Antarctic Peninsula. On board the ship we focused on designing and implementing our personal and work-based strategies, developed our peer coaching techniques and learnt tools to assist with research visibility.

A highlight of the on-board program was the Symposium at Sea, where we each had three minutes to communicate 'our science'. As one of the few neuroscientists on board, I used this opportunity to share the story of my Grandma's battle with Alzheimer's disease and how this inspired me to undertake a PhD to investigate this neurodegenerative disease. I also used this opportunity to advocate for the importance of strong international collaborations, along with the sharing of knowledge and resources, which is essential in combatting this global epidemic.

In the lead up to departure, one of the questions I was frequently asked was "why Antarctica?", with colleagues joking that I would be doing cell culture on board the ship. There was a moment mid voyage while standing on deck surrounded by the majesty of Antarctica, where it was clear to me that this was the perfect location for delivering the Homeward Bound program. As a continent

designated to science and peace, Antarctica is a gold standard for international scientific collaboration and a perfect example of what researchers should be striving for to combat the many complex problems currently facing our planet. During the Antarctic voyage we were fortunate enough to visit a number of American, British and Argentinian research stations, where we witnessed first-hand the international research collaborations working to understand climate change. Further, the harsh and unpredictable environment of Antarctica coupled with the intensity of life on board a ship provided innate challenges that required each of us to start applying the skills we were learning,

something that could not be simulated in a workshop environment.

As Chair of the ANS Student Body Committee, I now have the opportunity to utilise and develop some of the leadership tools I have learnt as I work as part of a dedicated team of students to support neuroscience students across Australasia. I encourage any female neuroscientists who are interested in joining the Homeward Bound initiative to apply for the 2020 cohort. If you have any questions, please do not hesitate to contact me at [rb478@uowmail.edu.au](mailto:rb478@uowmail.edu.au).



**Rachelle Balez**

*PhD Student,  
University of Wollongong*



April 2018

## Brain Bee



ANS experts have been developing new online learning materials for the Brain Bee Challenge, in conjunction with education and design experts from Education Perfect, our NZ partners for Round 1.

These online materials have been designed to allow for a less rushed and condensed approach to learning neuroscience than taken in the books currently used for students to prepare for the competition, with videos, high-quality graphics and other materials to complement the textual information, and to include self-assessment materials so students can evaluate their learning.

For this year the material has been rolled out as a beta version to complement the books, so as to gauge student engagement and get feedback about the materials.

Most of the material has been available for only a few weeks and, even in that short time, usage has been excellent (ranging between 216-717 students

per module, depending on duration the module has been available). Student ratings have also been high (3.7-4 / 5). The material is available for use at: <https://worldseries.educationperfect.com/brainbeecontent.html>

Currently it contains modules on

- Introduction to the nervous system;
- Signalling in the nervous system;
- Memory & learning;
- Neurodegenerative diseases;
- Sensory systems.

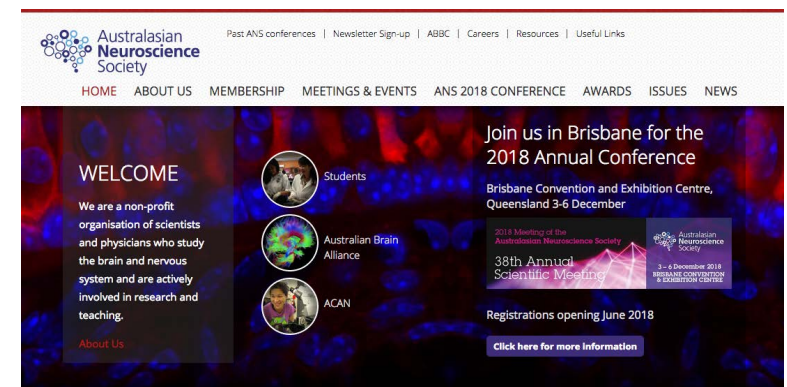
We hope to expand on these modules and engage more people to contribute to their development.

**Ramesh Rajan  
and the Brain  
Bee Team**

## New ANS Website

The new ANS website is up and running! <http://www.ans.org.au>. The website is now integrated with the services provided by our new Secretariat, The Association Specialists (TAS).

The ANS Executive will be working with TAS and Blacklight Designs to further develop the website into a new "one-stop shop." This will allow ANS members to manage their membership, register for the annual meeting, and submit award applications and abstracts. More details to come!



# ANS 2018 Membership

## Membership renewals for the calendar year 2018 are now due.

Your membership can be renewed [here](#) or by going to the following address:  
<https://tas.currinda.com/register/organisation/172>

Not already a member? Join now and enjoy the benefits listed in the box!

Are you an HDR student supervisor? Please encourage all your students to join ANS now and not wait until it's time to register for the Brisbane meeting!

Student membership is now only \$40 per year, and students must be members in order to apply for ANS student awards or travel support.

### Benefits of ANS membership include:

- Ability to play an active voting role in the peak neuroscience society in Australasia
- Eligibility for ANS awards
- Ability to propose plenary speakers and symposia at the annual ANS conference
- Reduced registration fee for the ANS annual scientific meeting
- Access to our online ANS community forums, including the ability to open your own ANS community forum
- Ability to organise and advertise your own events through the ANS website Quarterly Newsletter
- Free job advertisements

## How to join ANS / renew your membership online

Go to <https://tas.currinda.com/register/organisation/172> and enter your log-in details on the right-hand side. Your username is the email address you have previously registered with ANS and your password is the password you set in October 2017.

If you have forgotten your password, please click on 'Forgotten password' and your password will be emailed to you.

Click on 'Edit profile' at the top of the members area screen and click on 'Renew Now' under membership.

Membership fees may be tax deductible, as ANS is a registered charity with the Australian Charities and Not-for-profits Commission (ACNC) with Deductible Gift Recipient (DGR) status as a Health Promotion Charity. Please consult your accountant or taxation consultant for further information

If you have any questions please contact the ANS Secretariat by email at [secretariat@ans.org.au](mailto:secretariat@ans.org.au) or by phone on 02 9431 8652

# ANS MEMBERSHIP

April 2018

# ANS Draft Strategic Plan 2018 – 2023

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Please provide any feedback on this Draft ANS Strategic Plan by writing to A/Prof Kay Double at [kay.double@sydney.edu.au](mailto:kay.double@sydney.edu.au) by Thursday 31 May 2018.

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## ANS Draft STRATEGIC PLAN 2018 – 2023

*Note: Text in italics is taken directly from the ANS Constitution and cannot be amended*

### ANS Vision

To lead and foster excellence in neuroscience research, teaching & the application of discovery for the benefit of society.

### ANS Mission Statement

ANS exists to be the peak body of neuroscience in Australia & New Zealand and is seen as the leading regional body on an international level. ANS creates opportunities for researchers & serves the intellectual & operational needs of its members.

### ANS Values

- **Excellence:** ANS supports excellence in research and teaching that leads to new knowledge and societal benefits.
- **Integrity & Ethics:** The highest levels of ethical conduct and integrity are crucial to ANS and its members.
- **Inclusiveness:** ANS is a society that represents educators, researchers (broadly defined), clinicians, engineers and those who support the pursuit of knowledge about the brain and nervous system and its function, at all levels of their career.
- **Creativity:** ANS recognises the creative endeavour of research into neuroscience and brain function and the powerful role creative thinking plays in delivering our vision.

- **Representation:** ANS aspires to represent all areas of brain and nervous system science, education and translation at the highest levels of Government, to funding bodies and to the public, providing expert opinion, leadership and advice.

### ANS Objectives

In the following section, we address the objectives of ANS as described in our Constitution, and how these may be met in 2018-2023. The Society has three primary objectives: knowledge sharing, research excellence, and promotion of neuroscience.

### Knowledge Sharing

*The primary object of the Society shall be the advancement of the neurosciences by facilitating the dissemination of information pertaining to neuroscience, in teaching and research, by conducting meetings, seminars and lectures at local and national levels.*

**To meet this objective, ANS must encompass members from all areas of brain and nervous system science and behaviour. The annual meeting must be diverse in scope and of high quality. ANS also aims to increase and support local events throughout the year.**

**Goal: To increase the ANS annual membership base and representation.**

**Mechanisms:** Over the next 3-5 years ANS aspires to encompass and represent all areas

of brain and nervous system science and brain function, as well as neuroscience education and research translation. Those sectors/groups that are important to ANS include, but are not limited to, the following:

- Basic scientists
- Cognitive neuroscientists
- Computational neuroscientists
- Neuroengineers
- Chemosensory neuroscientists
- Neuroethologists
- Social neuroscientists
- Neuroethicists
- Neurologists
- Neurosurgeons
- Psychiatrists
- Psychologists
- Neuroradiologists
- Teachers/students/partner schools
- Brain science technology companies
- Brain science media communicators

### Measures:

1. Increased membership – aiming for a growth rate of at least 5% per year.
2. Increased member satisfaction, monitored via annual member surveys.
3. Increased diversity of research, academic and clinical areas to which ANS members belong.

**Goal: To develop structures to make ANS more efficient and effective.**

# ANS Draft Strategic Plan 2018 – 2023

## **Mechanisms:**

1. Engage and maintain the services of a professional Secretariat.
2. Develop a new integrated website that will provide a “one stop shop” for members and accommodate registrations for the annual meeting.
3. Establish governance procedures and policies that enable the ANS Council and Executive to be more effective in their roles.
4. Identify and mitigate risks to the Society.
5. Develop new strategies for generating revenue and sponsorship for the Society’s functions.

## **Measures:**

1. Increased communication with members through representation on ANS committees and on Council, inclusive of all sectors of our membership.
2. Increased communication directly with the ANS Executive through the ANS website.
3. Increased revenue and sponsorship.

**Goal: To sustain a high quality annual scientific meeting that showcases neuroscience research, attracts increasing numbers of delegates and provides a healthy financial surplus to drive down registration costs.**

## **Mechanisms:**

1. Improve the conference venue selection process such that negotiations are conducted to ensure conference costs are kept to a minimum and financial viability is maintained.

2. Establish an ANS Conference and Program Committee, chaired by the Editor, to replace the current local organising committee. Conference committee members will have a tenure of more than one meeting, thereby providing more stability for the committee and allowing retention of “corporate memory” related to conference planning and organization.
3. Enable innovative strategies for encompassing a broader representation of science at the annual conference.

## **Measures:**

1. Increased breadth of neuroscience represented at the annual meeting within 3 to 5 years.
2. Increase in attendance at the annual meeting (higher attendance by 2023 compared to 2017).
3. Reduction in registration costs, especially for students, by 2023, taking inflation into account.
4. Establishment of vibrant student and ECR participation in all facets of the conference program.
5. Inclusion of joint sessions or events with related Societies.

**Goal: To create high quality events outside of the annual scientific meeting and year-round benefits for members.**

## **Mechanisms:**

1. Provide opportunities for members to attend additional events throughout the year.

2. Encourage members to run events in their local community, sponsored by ANS.
3. Offer logistic and some financial support for such events.
4. Create new learning materials that are useful for ANS members.
5. Engage in neuroscience advocacy that will have flow-on effects for members.

## **Measures:**

1. Increase in the number of local events run by members.
2. Increased member satisfaction related to year-round benefits.
3. Increase in website and social media content that is useful for members.

## **Supporting Research Excellence**

*An additional objective is the actual undertaking of research for the benefit of Australia and New Zealand, by clarifying the actions of the nervous system and how diseases of the nervous system can be treated. This may take the form of presenting novel data at workshops and/or the publishing of novel data generated by members of the Society.*

**Goal: To promote Australasian neuroscience nationally and internationally and to lead innovative developments that will help attract funding to the sector.**

## **Mechanisms:**

1. To lead the sector in consistently identifying innovative mechanisms to strengthen neuroscience research outcomes.
2. To identify strategic partnerships that can help lobby government to increase funding for neuroscience.
3. To promote international collaboration in neuroscience.

## **Measures:**

1. Participate with the Australian Brain Alliance in developing a roadmap for neuroscience research over the next 10 years that will transform the sector and identify competitive advantages for Australasian neuroscientists.
2. Participate with the Australian Brain Alliance in lobbying government to fund the changes needed to realise the goals laid out in the roadmap.
3. Play an active role in promoting the involvement of Australasian neuroscientists in the International Brain Initiative so that our members can take advantage of the resources that may be provided for this initiative.

**Goal: To engage in activities that increase knowledge of the brain, the nervous system and its functions.**

## **Mechanisms:**

1. To promote and support ACAN and to investigate developing additional courses of this calibre.

# ANS Draft Strategic Plan 2018 – 2023

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2. To increase information sharing about the research discoveries of our members among researchers as well as the general public.

## **Measures:**

1. Recognition of ACAN as a world-leading research training course.
2. Increase in the number of research discovery articles in our website, newsletter and social media.

**Goal: To promote excellence in Australasian neuroscience and to ensure the quality of our sector's output.**

## **Mechanisms:**

1. To recognise research excellence through awards and honours.
2. To promote our neuroscience research through international organisations.
3. To promote our members through nominations for prizes and awards sponsored by other organisations, including government agencies.

## **Measures:**

1. Increase the number of honours and awards presented at the annual meeting.
2. ANS sponsorship of medals for neuroscience research excellence under the auspices of other organisations.
3. Increase in the number of neuroscientists who are members of learned academies and recipients of major Australasian and international prizes and awards.

**Goal: To promote equity and diversity within the Society and across all of our activities and functions.**

## **Mechanisms:**

1. Establish an ANS committee for equity and diversity that will oversee all societal activities to ensure that equity and diversity are fully embedded in the Society's activities.
2. The Equity and Diversity committee will have a representative on the ANS Conference and Program Committee.
3. Develop strategies for ANS to best support parents and carers to attend the annual meeting.
4. Raise awareness of issues related to equity and diversity across our sector.

## **Measures:**

1. All activities of ANS take equity and diversity into account (for details see the Committee for Equity and Diversity documentation).
2. Any activities that do not adhere to the principles of equity and diversity are modified or abolished.
3. Increased opportunities for members with caring responsibilities to attend the annual meeting.

**Goal: To support the careers of our members at all career stages.**

## **Mechanisms:**

1. Establish an ANS student body and an ANS postdoctoral and research representative body to represent the views of these groups on ANS Council and to provide ongoing support and activities.
2. Create new career opportunities for students and ECRs through a job fair at the annual meeting.

## **Measures:**

1. Increased career development activities of the Society.
2. Increased number and geographic diversity of ongoing and non-conference linked student and ECR activities funded and/or organised by ANS or ANS members, respectively.
3. Increased student and ECR engagement in the organisation and operation of ANS.
4. A student and ECR job fair at the annual meeting by 2023.

**Goal: To provide leadership in the ethical use of animals in research and the ethical sharing of data derived from human research participants.**

## **Mechanisms:**

1. Create an ANS Animals in Research Committee that will oversee the Society's dialogue and activities related to the ethical use of animals in research.
2. Support the work of Society members to advocate for the ethical use of animals in research.

3. Provide leadership amongst scientific societies on these issues and work with learned academies and international organisations to develop policies related to the ethical sharing of data derived from human research participants.

## **Measures:**

1. Increased public awareness of the vital role that animal experimentation plays in research discovery and translation.
2. ANS members involvement in the development of policies around the ethical sharing of data derived from human research participants.
3. Increased awareness by members of appropriate procedures for engaging with government, universities, institutes and the public about research involving animals.

## **Promotion of Neuroscience**

*The Society shall engage in the advocacy and promotion of neuroscience for the benefit of its members. This may be by appointing a member of the Society to represent the interests of the Society on Councils or Boards of other societies or to engage in advocacy strategies as required by the Society.*

**Goal: To promote neuroscience to the broader scientific community, universities, institutes, teachers and schools, government, patient advocacy groups, industry and the general public.**



# ANS Draft Strategic Plan 2018 – 2023

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## **Mechanisms:**

1. Establish a media and communications working group to devise a strategy for the next 3-5 years to increase the visibility of ANS in these sectors.
2. Increase informative neuroscience content on our website.

## **Measures:**

1. Increased media presence and hits/downloads to the website, Facebook, Twitter and other social media outlets.
2. Increased profile of neuroscientists in the media.
3. ANS is seen as providing reliable and accurate information and is viewed as an authority in the field.
4. Other organisations approach ANS to develop materials utilising the expertise of our members.

## ***Goal: To raise the quality of neuroscience literacy across Australasia.***

## **Mechanisms:**

1. Establish an ANS teaching resource committee that will increase teaching related content and facilitate the sharing of neuroscience teaching resources amongst ANS members, educational organizations and the general public.
2. Continue to develop the ABBC and the NZBBC.
3. Develop new learning content that raises neuroscience literacy in all sectors

of the community.

4. Develop engaging and innovative methods for reaching wider audiences.

## **Measures:**

1. Increased participation in the ABBC and NZBBC.
2. Increased neuroscience literacy in the general population as measured by website based surveys of our target audiences.
3. Increased school outreach through talks in schools by ANS members.
4. ANS materials produced for public outreach and for the brain bee.

## ***Goal: To attract talented students into the field of neuroscience research***

## **Mechanisms:**

1. Provide incentives for students to join ANS and to attend the annual scientific meeting.
2. Provide career information sessions for students contemplating a career in neuroscience.
3. Provide additional training courses similar to ACAN on other topics.

## **Measures:**

1. Increased numbers of high school, undergraduate and graduate students at the annual meeting.
2. Increased applications to ACAN or similar courses.

January 2018

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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 Monday 2 July 2018.

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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 new website (currently under construction) and included in the newsletter if appropriate. Such requests should be directed to the ANS Secretary.

**Newsletter Editor**

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