November 2024

Australasian Neuroscience Society

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Australasian Neuroscience Society

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www.ans.org.au

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https://www.ans.org.au

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November 2024

Message from the President

It is exciting to see the announcement of the complete program for the forthcoming Annual Scientific Meeting, to be held in Perth on 2-4 December. This highlights the impressive strength and diversity of neuroscience activity across Australia and New Zealand. I notice that this year the abstracts are already available on the ANS web site, enabling attendees to start planning their schedule and potentially identify new collaborative and training opportunities. I look forward to seeing you there and learning about the latest ideas and outcomes.

Professor
Janet Keast

President, ANS
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Another highlight of our Annual Scientific Meeting is the formal recognition of our colleagues' achievements through ANS Plenary Lectures and prestigious Awards. In addition to the annual AW Campbell, Nina Kondelos, Paxinos-Watson and Mark Rowe awards, this year several new annual awards will be presented for the first time. These are: (i) the Marcello Costa Award, for the best publication on neural regulation of organs by an early career researcher member of the Society, supported by a generous gift from Professor Costa, who passed away in April 2024; and (ii) the Education Excellence Award, recognising an individual or team who has made outstanding contributions to neuroscience education in Australia.

This is also the first year in which the ANS Finkel Foundation Travelling Fellowships will be awarded, to be announced at the 2024 AGM. Supported by a generous gift from the Finkel Foundation, these Fellowships aim to provide career development opportunities to early and mid-career ANS Members based in Australia or New Zealand by supporting a "mini-sabbatical" style of Travelling Fellowship to a host laboratory with world-leading expertise relevant to development of brain-computer interfaces or related areas of innovative neurotechnology. These Fellowships will be awarded over each of the next five years, the next round likely to be opened in the first quarter of 2025.

Aligning with one of the goals of the 2024-2028 Strategic Plan, 2024 has been a year for consolidating our relationships with other neuroscience societies, another aspect of our activity disrupted by the pandemic. ANS members can now register with member status for annual conferences of the Japan Neuroscience Society (JNS) and the Federation of European Neuroscience Societies (FENS). ANS is also delighted to have a strong support of our activities by IBRO (International Brain Research Organization), including the Indigenous Excellence in Brain Research symposium and the Early-Mid Career Networking Social at the forthcoming Perth conference. We are honoured that Dr Tracy Bale, Professor and current President of IBRO, will be presenting the 2024 ANS International Plenary Lecture. Also relevant to this international context, congratulations to Samuel Richards, a 16-year-old student from Western Australia who has recently won the 2024 International Brain Bee Championship.

In this final newsletter message as President, I would like to thank the many ANS colleagues who I have had the pleasure and honour of working with over the last two years. I have greatly valued your openness, creativity, energy and dedication to achieving our shared goals of further strengthening neuroscience in Australia and New Zealand, and

(Message from the President ... continued)

expanding opportunities for our members. Most frequently this interaction has been with the ANS Council, Executive, Committee Chairs and leadership of ACAN and Brain Bee teams, but I am also grateful for the ongoing input from across the ANS membership, to provide me with additional perspectives during this period.

Annual Scientific Meeting to be held in Perth from 2-4 December 2024

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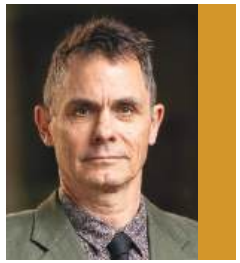
From the Secretary

It has been an interesting and even enjoyable four years as ANS Secretary. The rewarding part (for me) has been interaction with outstanding neuroscientists who show great generosity of community-spirit.



A/Prof Michael Lardelli

Secretary, ANS

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If I had to cite an achievement with which I am most pleased, it would be institution of clearer criteria for assessment of the various ANS Awards. This was initiated by former President Peter Schofield and expanded under current President Janet Keast as the variety of ANS Awards increased.

I have Prof. Nick Spencer to thank for encouraging me towards involvement in ANS management when he suggested I act as chair of the local organising committee for the 2014 ANS Annual Scientific Meeting in Adelaide. That involved a period as SA representative on Council, followed by local organising committee involvement for the 2019 ASM in Adelaide and then service as ANS Secretary during the "COVID chaos".

My retired former colleague, Prof. Robert Richards, when encouraging university staff to attend yet another committee meeting, frequently reminded us that, "The world is made by those who turn up".

Fortunately, ANS Council and Executive meetings are seldom tedious and almost always productive. It has been easy to find the motivation for participation and I would encourage anyone contemplating deeper involvement with ANS to take the plunge. There are many ANS Council positions with mandatory turnover in 2025 and there is also useful work to be done on ANS' various committees. If you are contemplating involvement, then a first step can be to contact the ANS Secretary (i.e. me until the December ASM) or Matilde Balbi, who is currently Secretary Elect and who will take over as ANS Secretary at this year's meeting in Perth.

From the Treasurer

As I step down from my position as Treasurer after four eventful years, I want to take this opportunity to share some reflections with you. Since 2021, it has been a pleasure to work alongside the ANS Executive Committee, focusing on our financial stability, particularly during the challenges posed by the COVID pandemic. I am pleased to report that we have emerged from this period with a strengthened financial position, evidenced by balanced budgets and modest profits in each of the past four financial reports. I extend my gratitude to Prof. Brian Dean, my predecessor, for his guidance and support in introducing me to this role. I am excited to pass the responsibilities to our Treasurer-elect Dr. Steve Kassem, who has already demonstrated great energy and initiative. His experience in event organisation and fundraising will undoubtedly benefit ANS in the years to come. As we look to the future, I believe it is essential for us to reconsider our approach to conference organisation. Finding more efficient methods for engagement and reducing the administrative expenses will help us support and foster community among our members moving forward.

A/Prof Jana Vukovic

Treasurer, ANS

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Dr Rose Mason: Australia's first female neuroscientist

Dr. Rose Mason (nee Eccles) recently received an honorary degree, Doctor of Science, from the Australian National University (ANU). This was a belated recognition of the enormous contribution Dr Mason made to Australian neuroscience in the 1950s and 60s, mostly at ANU. She was the first female Australian neuroscientist, and one of the first PhD graduates from ANU.

Emeritus Professor Stephen Redman

Australian National University

Dr Mason was the eldest daughter of John and Irene Eccles. In 1952, John Eccles was appointed as the first Professor of Physiology at the recently established John Curtin School of Medical Research. Dr Mason was awarded an ANU PhD scholarship in 1952, and as there were no suitable laboratories at ANU at that time, she worked in the Physiology Department at Cambridge University for the next three years. Her seminal work, while there, was to make intracellular recordings from neurons in the superior cervical ganglion (1). To do this, she had to develop the isolated ganglion preparation, which was a major achievement. This preparation has been used ever since in studies on autonomic ganglia. The other notable work from her Cambridge days was to determine the ionic dependence of the resting membrane potential, and the action potential, in cells of the electric organ of the ray Raria Clavata (2). Hitherto, this had been done only for the squid axon (by Hodgkin and Huxley) and amphibian muscle (by Nastuk and Hodgkin).

After three years at Cambridge, Dr Mason returned to Canberra to join her father in the new laboratories at JCSMR. Professor Eccles had become a magnet for outstanding young neuroscientists from many countries, who wanted to learn how to make and interpret intracellular recordings from neurons in the CNS. Dr Mason was integral to the success of this large research operation. She understood the scientific questions, she was familiar with the homemade stimulating and recording apparatus, and she was a skilled experimentalist. She transferred her knowledge to the newly arrived scientists and was involved in many productive collaborations. She was highly respected for her intellectual contributions, and she was the "glue" that allowed the laboratories to function so effectively. From 1955 to 1969, she published 63 papers. Twenty-five of these papers were published with her father, most of them on the electrical properties of motoneurons and connectivity of stretch afferents with motoneurons. These are widely regarded as classic papers and continue to be highly cited. Her contributions to this work undoubtedly helped her father win his Nobel Prize. In addition to her work with her father, Dr Mason collaborated with more than a dozen visitors to the John Curtin School, on the electrophysiology of neurons involved in the stretch reflex and the synaptic connections formed on these neurons by muscles afferents. Her publications have received 7330 citations, an average of 116 citations per publication. Her h-index is 35, although these citation metrics were not used at the time. These are excellent metrics by today's standards but were exceptional in the context of the period.

Dr. Rosamond (Rose) Mason at her ANU PhD graduation in 1955. Photo: ANU Archives

(Dr Rose Mason ... continued)

In 1968 Dr Mason gave up her scientific career to raise a family. In those days, there were no support systems or childminding facilities in place to allow her to continue her work. Her strong community-minded values and desire to help others continued for the rest of her life. One of her children was born with a severe disability, and this led to her involvement with various disability committees in the ACT. She established the first after-school program for children with disabilities at the Turner Primary School and ran this program for more than 10 years. Dr Mason is now living in residential care in the ACT.

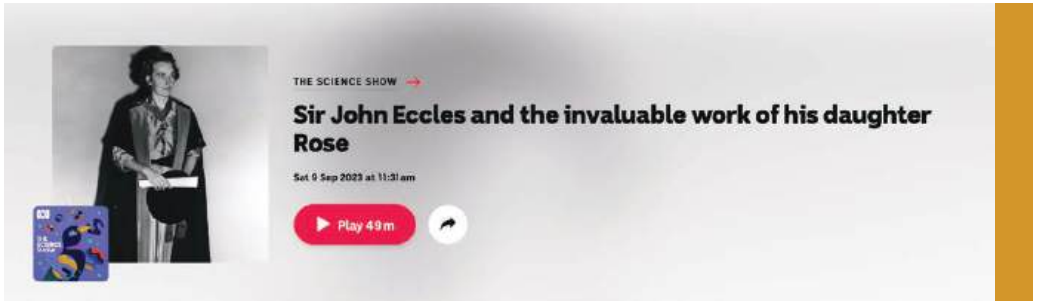
(1) Eccles, RM. Intracellular potentials recorded from a mammalian sympathetic ganglion. J. Physiol. 130(3), 572-84, 1955

(2) Brock, LG and Eccles RM. The membrane potentials during rest and activity of the ray electroplate. J.Phyiol. 142(2), 251-74, 1958

Acknowledgements

I appreciate the assistance I received from Professor John Bekkers when writing this article. I have taken some material from the citation prepared by the ANU for conferring the honorary degree on Dr. Mason.

Dr. Rosamond (Rose) Mason (Eccles) during her honorary conferral on 9 September 2024. Photo: Tracey Nearmy/ANU



Sir John Eccles and the invaluable work of his daughter Rose.

https://www.abc.net.au/listen/programs/scienceshow/sir-john-eccles-and-the-invaluable-work-of-his-daughter-rose/102812946

November 2024

The ANS 2024 Scientific Meeting: Forging The Nexus, Crossing The Synapse

We are thrilled to welcome members of the ANS and wider Australasian neuroscience community to the newly refurbished Pan Pacific Hotel https://www.panpacific.com/en/hotels-and-resorts/pp-perth.html in Perth, Western Australia, with spectacular views over the culturally significant and picturesque Swan River.

The Local Organising Committee – chaired jointly by Dr. Sarah Hellewell, Dr. Chidozie Anyaegbu, Dr. Stuart Hodgetts and A/Prof. Stephanie Rainey-Smith – have planned an exciting program which showcases the exceptional work of Australasian researchers across career stages over three thrilling days.

We are delighted to confirm the following symposia for the 42nd ASM. More detail about each of them may be found here (https://www.ans.org.au/ans-asm/symposium-speakers)

A highlight of this year's ASM will be the ANS Party on Tuesday. Join us for a night filled with food, fun, and festivities against a backdrop of uniquely Australian, vibrant and vivacious music, courtesy of Wild Marmalade (http://www.wildmarmalade.com/).

Come for the celebrated speakers, stay for our stunning summer sunsets!

Symposium	Chair	Speakers
The role of the microbiome and gut-brain axis in brain function and dysfunction	A/Prof. Ryan Anderton	Dr. Sarah-Jane Leigh, A/Prof. Francine Marques, Prof. Damien Keating & Prof. Anthony Hannan
Insights into neurodegenerative disease mechanisms from -omics	Prof. Lezanne Ooi & Dr. Tomas Kavanagh	Dr. Eleanor Drummond, A/Prof. Adam Walker, Prof. Scott Ayton & Dr. Rachelle Balez
Characterising the fundamental mechanisms of brain stimulation	Dr. Jamie Beros, Dr. Aleksandra Miljevic & Dr. Jacqueline Iredale	A/Prof. Susannah Tye, Dr. Joshua Brown, Dr. Li-Ann Leow & Dr. Alexander Tang
Rethinking the transition from habits to compulsivity in addictive behaviour	A/Prof. Kelly Clemens	Dr. Karly Turner, Dr. Mike Kendig, A/Prof. Laura Corbit & Dr. Robyn Brown
Building blocks of neuronal function and how misplaced pieces can lead to brain diseases	Dr. Ramón Martínez-Mármol	Dr. Merja Joensuu, A/Prof. Victor Anggono, A/Prof. Vladimir Sytnyk & Prof. Yazi Ke
Molecular switches in health and disease	Professor Chris Dayas	Dr. Maria Kuznetsova, Dr. Annabel Short, Dr. Kelly Clemens & Dr. Chuck Herring
Developing maps of the brain – understanding how cortical and subcortical ensembles guide function	Dr. Matilde Balbi	Dr. Dylan Black, Prof. Lucy Palmer, A/Prof. Adam Bauer & Montana Samantzis
Leveraging GWAS to discover mechanisms and treatments for neurological and neuropsychiatric disorders	Dr. Maria Di Biase & Prof. Tony Hannan	Prof. Sarah Medland, Dr. Michael Clark, Dr. Fleur Garton & Dr. William Reay

... symposia continued overleaf

(The ANS 2024 Scientific Meeting ... continued)

... symposia continued

Symposium	Chair	Speakers
New insights for the role of striatal dopamine signaling in learning and behaviour	Dr. Thomas Burton	Dr. Vijay Namboodiri, Dr. Genevra Hart, Dr. Miriam Matamales & Dr. Roger Varela
Mechanisms of neurodegeneration – insights from human brain imaging	Dr. Jenna Ziebell & Dr. Sarah Hellewell	Dr. Amanda Lewis, Dr. Helen Murray, Dr. Victor Dieriks & Prof. Kay Double
Indigenous excellence in brain research	Dr. Lizzie Manning	Dr. Makarena Dudley, Dr. Jessica Buck, Gina Waters & Leigh Potter
Sensorimotor integration for motor control, motor learning, and rehabilitation	Dr. Li-Ann Leow & Dr. Jane Tan	A/Prof. Welber Marinovic, Dr. Michelle Marneweck, A/Prof. John Semmler & A/Prof. Ann-Maree Vallence

November 2024

Brains and Banter: Inspiring the next generation of SA neuroscientists

Held at the University of Adelaide on July 26, 2024, Brains & Banter was an evening of thought-provoking and engaging discussions, bringing together bright minds from South Australia's top universities: The University of Adelaide, Flinders University, and the University of South Australia.

Imanthi Illeperuma

South Australian Student Representative for ANS

As the South Australian Student Representative and a first-year PhD-MBA student at the Laboratory for human neurophysiology, stem cells and genetics (Bardy Lab) at SAHMRI/Flinders University, my mission this year was to nurture a vibrant local neuroscience community where students and researchers could connect and share ideas.

The event attracted around 60 attendees, creating an atmosphere filled with excitement and curiosity. Undergraduates, Honours and PhD students and distinguished researchers all gathered together to exchange insights across diverse areas of neuroscience, including neurodegenerative disorders, pain, cognition and novel biotechnologies.

The evening began with seven brief captivating talks by renowned researchers, each navigating complex topics without a hint of scientific jargon. Associate Professor Lyndsey Collins-Praino from the University of Adelaide opened with a compelling talk on diagnosing and predicting risks associated with dementia and Parkinson's disease. Professor Cedric Bardy from Flinders University followed with an exploration of stem cell-based 2D and 3D models for studying Parkinson's disease, childhood dementia and brain cancer. Dr. Yee Lian Chew, also from Flinders University, shared her research on worm models to investigate learning, memory, and behaviour. Dr. Simran Sidhu from the University of Adelaide provided insights into how exercise affects brain function. Dr. Dusan Matusica from Flinders University delivered an invigorating presentation on chronic pain research and AI's role in addressing this. Dr. Isabella Bower from the University of South Australia discussed how interior design can influence perception and emotion. Finally, Dr. Fiona Bright from Flinders University offered a glimpse into her journey from studying developmental to adulthood disorders in vitro.

The evening was not just about learning; it was a celebration of neuroscience! It featured a lively Q&A panel, which allowed researchers to address questions on networking, AI integration in neuroscience, and career development tips, as well as a spirited trivia game, with pizza and drinks keeping the energy high throughout the night.

Feedback was overwhelmingly positive, with many undergraduates eager to pursue neuroscience careers and researchers expressing their enjoyment in getting to know students and reconnecting with fellow researchers in the field. The event underscored the importance of fostering curiosity and collaboration within our community.

(Brains and Banter ... continued)

As the night ended, there was a strong sense that Brains & Banter could become a key event in South Australia's neuroscience calendar, offering ongoing opportunities for networking and knowledge-sharing. I am deeply grateful for the support from Associate Professor Lyndsey Collins-Praino, the SA state representative for ANS, and my Bardy Lab colleagues, especially Ella McDonald and Paris Mazacchi. Thank you to all the speakers and attendees who made the night memorable. I am excited to continue contributing to this vibrant field and to see where our collective enthusiasm and curiosity will lead us next.

November 2024

Published study on Australian tertiary neuroscience teachers

A study by ANS members Professor Kay Double (University of Sydney) and Associate Professor Gabrielle Todd (University of South Australia) characterised the training and experience of tertiary teachers of neuroscience in Australia, as well as the availability of teaching resources in this field.

The survey-based study was supported by ANS members, many of whom contributed to the data collected. The results of the study were recently published in PLOS ONE and can be accessed here (https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0311252).

The abstract is below:

Neuroscience is an academic discipline taught within a broad range of university degrees and programs. The expertise and experience of neuroscience teaching staff contribute to the student's learning experience and knowledge acquisition. We undertook a survey to characterize the neuroscience teaching workforce and practices in Australian universities, and to investigate access to and deficiencies in neuroscience teaching resources and training. Two hundred neuroscience teaching staff completed our anonymous online survey. The responses indicated that neuroscience is primarily being delivered by highly qualified (86% with doctoral degrees, 27% with formal qualifications in tertiary teaching), research-active (45% were recently primary supervisors of research students) teaching academics with secure employment (77% in full-time continuing positions). There were more females (61.5%) than males (38.5%) in the sample and most respondents taught neuroscience to students enrolled in a range of degrees/programs. Most survey respondents could access an anatomy laboratory for teaching (87%) but access to specialised online resources, such as augmented reality presentations, customised game-based learning approaches, and/or online brain atlases, was limited. Most survey respondents reported they would benefit from increased access to neuroscience teaching resources and/or peer-tested teaching materials (80%), an informal network of Australian neuroscience teaching peers (64%), and/or training workshops on neuroscience teaching (59%). Approximately half of survey respondents supported the creation of national guidelines for neuroscience teaching curricula. The survey results identify specific gaps in teacher training and resources and inform the development of strategies to support tertiary teachers of neuroscience and student learning.

Professor Kay Double

University of Sydney

Associate Professor Gabrielle Todd

University of South Australia

November 2024

Researcher Profile:
Gabriela Oana Bodea, The University of Queensland

Dr Gabriela Oana Bodea

The University of Queensland, Queensland Brain Institute

PhD received (year and place):
2014, Germany
Previous workplaces (Phd and/or Postdoc):
Mater Medical Research Institute

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1) **How did you get into science and your current position?**
My fascination with the human brain began in school, but it was during my PhD at the University of Bonn, Germany, that I became truly passionate about how our brain develops and generates diverse neuron types. Here, under Prof. Sandra Blaess's guidance, I studied the migration and clustering of dopaminergic neuron subtypes. This work deepened my interest in understanding and better defining neuronal diversity in the mammalian brain.

After earning my PhD with Summa cum laude in 2014, I was eager to pursue my research further. That year I had the opportunity of attending the Society for Neuroscience (SFN) meeting in San Diego (USA) where groundbreaking studies by Prof. Fred Gage and Prof. Geoffrey Faulkner caught my attention. Their work revealed how Long-Interspersed Element 1 (LINE-1 or L1), a type of mobile DNA known as 'jumping genes,' contributes to neuronal diversity in mammals. L1 elements can 'jump' within the genome via a 'copy and paste' mechanism, similar to retroviruses, affecting gene expression by altering chromatin structure, transcription, and pre-mRNA processing. While prior studies suggested a role for L1 mobilisation during neuronal differentiation, due to still limited tools available for investigation, L1's impact on neurodevelopment and neurobiology remained unclear. To address these gaps, I joined Prof. Geoffrey Faulkner's lab in Australia and secured funding from the German Research Foundation (DFG) to study L1 activity during neurodevelopment.

This leap into a young field was risky, and I faced many obstacles in developing and refining my tools of investigation. However, perseverance paid off and I successfully tracked L1 activity in the brain, discovering that it is enriched in specific neuronal subsets, such as parvalbumin interneurons. This work was published this year in Nature Neuroscience (https://www.nature.com/articles/s41593-024-01650-2). This achievement was a powerful reminder that even amidst setbacks and self-doubt, a relentless pursuit can lead to significant breakthroughs.

2) **Please outline the goal of your research in three short sentences**.
The goal of my research is to better understand how neuronal diversity arises and why certain neurons are more vulnerable in disease. I focus on the role of mobile DNA in shaping this diversity by influencing gene regulation in a neuronal type-specific manner. Additionally, I investigate how environmental risk factors affect mobile DNA regulation and how this contributes to neurological disorders.

3) **What do you love about your job?**
I find it hard to think of what I do as a job as it feels like much more than that. I love how every day is different, keeping things exciting and fresh. This variety keeps me engaged and continuously challenges me to learn, grow, and adapt. I also enjoy the opportunity to collaborate with new people who bring fresh perspectives and ideas to my work.

4) **What project(s) are you currently working on?**
My research focuses on understanding how the dysregulation of mobile DNA contributes to disease, particularly its involvement in schizophrenia and Parkinson's disease. I am specifically investigating how mobile DNA affects dopaminergic neuron development and maintenance.

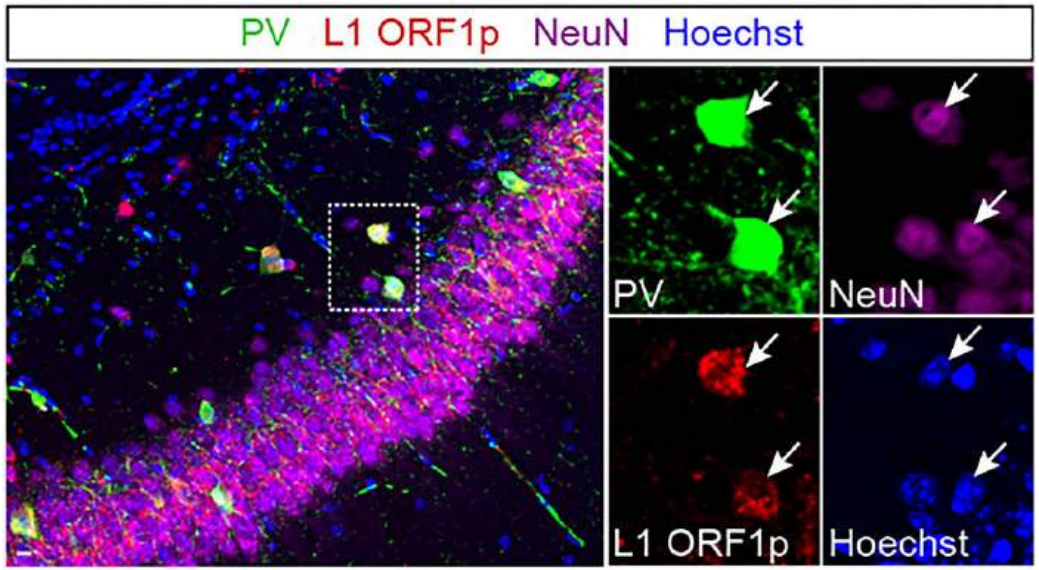
(Researcher Profile: Gabriela Oana Boder ... continued)

5) **Do you have any advice for anyone considering a career in science? What advice would you give your 5-year younger self?**
I believe unwavering determination in pursuing your scientific questions and, perhaps more importantly, surrounding yourself with inspiring and uplifting mentors, are the most important factors to achieve success.

6) **What do you do when you are not working?**
When I'm not working, I love spending time with my 5-year-old son cooking, making candles and blending oils. Cooking has become even more fun with him helping out in the kitchen as it is a creative outlet for both of us and a way to explore different cultures and flavours together. I enjoy experimenting with new recipes and techniques, and sharing meals we've prepared with friends and family brings us so much joy. Crafting candles and blending oils also lets me express my creativity while creating a peaceful, comforting atmosphere in our home.

7) **What are your future plans?**
My future plans are really exciting! I have recently been awarded a Brain & Behavior Research Foundation (BBRF) Young Investigator Grant, which is one of the most prestigious awards in mental health research for EMCR investigators. This grant will allow me to explore the fascinating interplay between the environment and mobile DNA in contributing to psychiatric disorders. I am looking forward to diving into this work in the coming years, and I am also planning to establish my own research group soon to continue driving this work forward.

Links to my research:
https://about.uq.edu.au/experts/10506
www.linkedin.com/in/gabriela-bodea-7a29334b
https://x.com/gabriela_bodea



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Researcher Profile:
Nazzmer Nazri, The University of Adelaide

Dr Nazzmer Nazri

Adelaide Health and Medical Sciences Building, The University of Adelaide

PhD received (year and place):
The University of Adelaide, 2023
Previous workplaces (Phd and/or Postdoc):
Childhood Dementia Research Group, Flinders University

Email: nazzmer.mohdnazri@adelaide.edu.au

1) **How did you get into science and your current position?**
In my second year of undergraduate studies, my cohort was presented with a few options for majoring my studies in. Upon further exploration, I stumbled upon the project by Dr. Saman Ebrahimi, which allowed me to develop my interest in neuroscience by writing a literature review on the tiny protrusions along the neuronal dendrites of a neuron, more commonly known as the dendritic spines. This project gave me a glimpse of, or "taste" for, the science of the brain, which I found, and still find utterly fascinating.

Following this experience, I attended the South Australian Health and Medical Research Institute (SAHMRI) open day, where I had the pleasure of meeting my mentor, Professor Kim Hemsley, who helped to cultivate my interest in neuroscience further. At the time, Professor Hemsley was investigating the morphologies of dendritic spines in Sanfilippo syndrome, a childhood-onset form of dementia. Eager to immerse myself in this field, I seized the opportunity to embark on a summer lab placement at SAHMRI, where I delved into childhood dementia research and discovered my interest in scientific research. This encounter marks the start of my 3.5-year-long journey in the lab.

Throughout my PhD, I enjoyed collaborating with Dr Jolly at the Adelaide Health and Medical Sciences Building. Under his guidance, I acquired valuable skills in electrophysiology and the establishment of primary mouse neuronal cultures. Working alongside the neurogenetics groups, I was inspired by their dedication and expertise in solving neurodevelopmental disorders. Herein lies the power of connection, as through Dr. Jolly's introduction, I crossed paths with Associate Professor Cheryl Shoubridge, the Head of the Intellectual Disability Research Group. I had no idea that this introduction would shape up to be a pivotal moment for my career trajectory. One meeting and a couple of questions later (reads interview), and here I am, embarking on a new chapter as an aspiring Postdoctoral Researcher in the Intellectual Disability Research Group, delving into the complexities of Developmental and Epileptic Encephalopathies (DEE).

This opportunity has not only allowed me to deepen my understanding of neurodevelopmental disorders but also reinforced my commitment to advancing scientific knowledge for the betterment of families and affected individuals by this condition.

2) **Please outline the goal of your research in three short sentences**.
- To enhance the quality of life for children and their families affected by rare genetic disorders.
- Develop innovative therapeutic interventions to treat these disorders effectively, aiming to improve long-term well-being.
- Cultivate a nurturing environment that empowers the next generation of scientists by offering mentorship, research opportunities, and educational support.

3) **What do you love about your job?**
What I love most about my job is the collaborative atmosphere in my workplace, where I can team up with talented and supportive colleagues to bounce ideas to solve a scientific problem. This makes it a productive and enjoyable environment where I can constantly learn and grow from my colleagues. Moreover, I find fulfilment in knowing that my research has the potential to positively impact patient healthcare and improve their quality of life. This, for me, is immensely gratifying.

(Researcher Profile: Nazzmer Nazri ... continued)

4) **What project(s) are you currently working on?**
I am currently working on Developmental Epileptic Encephalopathies (DEE), which is a severe form of epilepsy that presents in infancy and early childhood. Affected children are drug-resistant, and treatment does not provide any relief from seizures, with ongoing seizures further impacting the development of the brain. Hence, there is a need to identify, develop and evaluate disease-modifying therapies to relieve seizures in affected children with DEE.

My current project is to evaluate and identify a treatment regimen with therapeutic or ameliorative properties by utilising mouse primary neuronal cultures that recapitulate the seizure phenotype in human patients. This will enable me to evaluate the treatment efficacy of seizure-suppressing drugs. To do this, I utilised the multi-electrode array (MEA) recording system to measure the changes in neural activity between treatment groups and assess the drug's efficacy in suppressing seizure activity in primary mouse neurons.

The overarching aim is to treat these affected children and to help facilitate their normal developmental progress and, ideally, modify the underlying pathophysiology to enhance their long-term health and developmental outcomes directly.

5) **Do you have any advice for anyone considering a career in science? What advice would you give your 5-year younger self?**
Reflecting on my journey in science, I would offer a few pieces of advice to anyone considering a career in research. Firstly, science is dynamic and ever-evolving. It is important that you have passion and curiosity in the field to ensure that you can stay motivated and engaged. Secondly, a scientific career is rarely linear; setbacks and failure are inevitable, but these experiences are a great learning curve for a young scientist to learn and grow. Lastly, be open-minded and adaptable and always look for opportunities to upskill.

As for my younger self, I would advise him to embrace failure as a natural part of one's journey and use it to propel forward. Be passionate, resilient, and adaptable to navigate the complexities of life and make meaningful contributions to society.

6) **What do you do when you are not working?**
In my spare time, I am actively engaged with the Australian Society for Medical Research, a peak professional society advocating for health and medical research across Australia. I've been a committee member since 2021 taking on roles such as Scientific Meeting Convenor, Treasurer, Sponsorship Lead, and currently serving as the Convenor for South Australia.

Through these roles, I aim to contribute to shaping science policy, ensuring that future researchers have equitable access to funding and a sustainable work environment. I believe it is my way of supporting the incredible efforts of researchers who tirelessly work to enhance the Australian population's welfare and health outcomes.

When I am not immersed in research and science advocacy, you'll likely find me hitting the gym regularly. Physical exercise helps me stay fit and healthy, allowing me to clear my mind and recover after a long day at work. Nature beckons me outside, and hiking is one of my favourite hobbies. Challenging myself with mountain ascents and traversing scenic trails is therapeutic for me.

7) **What are your future plans?**
I am eager to continue expanding my expertise and making meaningful contributions to the field of rare genetic disorders. I plan to pursue opportunities for professional development, such as training programs, to stay updated on the latest advancements and best practices in the field.

Additionally, I aspire to take on more leadership responsibilities and mentorship roles. I believe in paying it forward and nurturing the next generation of talent.

Looking further ahead, I am excited about exploring new avenues for research or project initiatives that align with my passion and expertise. This could be collaborating with interdisciplinary teams, exploring emerging technologies, or addressing societal challenges; I am committed to pursuing opportunities that allow me to make a positive impact and drive meaningful change.

Links to websites:
https://www.linkedin.com/in/nazzmernazri/

November 2024

Researcher Profile:
Simon Maksour, University of Wollongong

Dr Simon Maksour

Molecular Horizons and School of Chemistry and Molecular Bioscience, University of Wollongong

PhD received (year and place):
March 2023 and University of Wollongong
Previous workplaces (Phd and/or Postdoc):
Completed my PhD supervised by Professor Mirella Dottori and currently working as a postdoc in Professor Lezanne Ooi's lab group.

Email: smaksour@uow.edu.au

1) **How did you get into science and your current position?**
I wanted to become a civil engineer during my last years of high school, and ended up breaking my nose playing soccer. The surgeon told me about how he had to do a research project in his training and that instead of working on a patient at a time you could work on a disease itself. That's what got me wanting to chase a career in science (I am glad I didn't become an engineer, I would have got bored after designing the first road).

I undertook a medical biotechnology degree at Wollongong, where in a 3rd year subject we learnt about the use of stem cells in research, making me realise that is where I saw myself working. I ended up doing an Honours project at the Innovation Campus in the Crook lab using stem cells to model psychiatric disorders and then a PhD at UOW in the Dottori lab using stem cells to understand the early molecular changes in Alzheimer's disease. I now am using stem cells to generate patient derived motor neurons to identify novel compounds to treat Motor Neruone Disease (MND) with Professor Lezanne Ooi, the same person that gave the lecture that inspired my interest in stem cell research.

2) **Please outline the goal of your research in three short sentences**.
There is no cure for Motor Neurone disease (MND), with current treatments only offering an extension of life for several months, hence there is a pressing need for new therapeutics. My work is focussed on generating motor neurons from patients with familial and sporadic cases of the disease, and performing high-throughput compound screening coupled with machine learning pipelines (with our collaborators in Saman Halgamuge's lab), to identify novel therapeutics to better treat this devastating disease.

3) **What do you love about your job?**
The work is always challenging and that is what keeps me wanting to get up each morning, it is never the same and never boring. The work I do is fulfilling, I love the feeling that I am working towards something that I hope will eventually help someone.

4) **What project(s) are you currently working on?**
In addition to my drug screening project and the collaboration with Saman Halagmuge's lab at UoM, I am supervising two PhD students, Adile Kaban and Calista Turner, who are working to understand the role microglia play in Alzheimer's disease and MND, respectively.

I was also fortunate enough to receive a Bruce Warren fellowship last year which has provided me seed funding to work on a collaborative project with Lachlan Thompson and his team at USYD (Kevin Law and Louise Cottle) to develop a xenotransplanation mouse model.

I am also collaborating with researchers at UOW, Luke McAlary and Thomas Walker (Yerbury lab) and Dzung Do-Ha (Ooi lab), to better understand the molecular dynamics occurring within MND-patient derived motor neurons using high-throughput imaging pipelines.

I am working on a project with the Phillips lab at UOW (lead by Gabby Phillips), Jiahua Shi and Mirella Dottori to understand neural support cell dysregulation in Huntington's disease.

5) **Do you have any advice for anyone considering a career in science? What advice would you give your 5-year younger self?**
My advice for anyone considering a career in science is it is never too early to start reaching out to researchers that do work that excites you. There is always the opportunity for lab tours, mentoring, undergraduate research projects and eventually honours projects.

The advice for 5 year younger self, and its going to be something your supervisors may not like, but delay the start of your PhD by 6 months. Come back to start your PhD fresh and ready to go, you will never get an opportunity like that unless you are lucky enough to ever get long service leave.

(Researcher Profile: Simon Maksour ... continued)

6) **What do you do when you are not working?**
I currently play futsal, basketball and enjoy running a few times a week. But my favourite way to clear the head, is fishing whether it's from the kayak, the shore or out on a mate's boat.

7) **What are your future plans?**
I want to keep working in the stem cell field and moving towards translational outcomes for neurodegenerative diseases. I one day hope to run my own research team.

8) **Anything else you would like to share that's not covered in the questions above?**
Don't forget to celebrate the little wins, what you are doing is unreal and chances are you may be one of the very few researchers in the world doing it.

Links to websites:

Google scholar
https://scholar.google.com/citations?user=qnGdZkcAAAAJ&hl=en
ORCID ID
https://orcid.org/0000-0002-1837-3863
UOW scholars
https://scholars.uow.edu.au/simon-maksour
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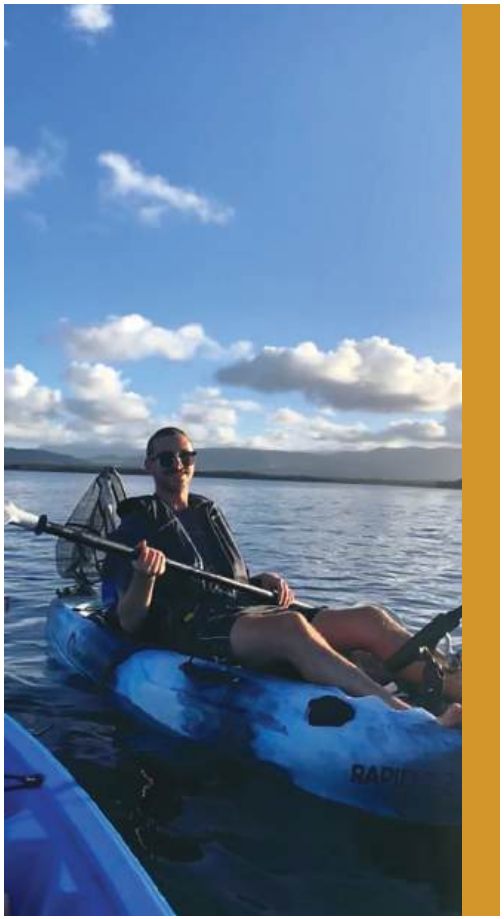

November 2024

Communications

Is there information you would like included in our ANS Newsletter, published in our monthly online Bulletin, posted on our website, or tweeted?

ANS has a Communications Committee to help members disseminate information and assist the Society in publicising its activities to Members and the public. This committee is co-chaired by Dr Nathalie Dehorter (Australian National University) and A/Prof Marco Morsch (Macquarie University). It oversees the production of the newsletter and ensures that current content is posted on the ANS website, published in our monthly online Bulletin prepared by the ANS Secretariat, disseminated through postings on the ANS Twitter account (by Dr Lila Landowski, University of Tasmania) and LinkedIn (curated by Prof Thomas Fath, Macquarie University).

http://www.ans.org.au

https://twitter.com/AusNeuroSoc

https://www.linkedin.com/groups/8362021/

If you have content for us, please email Marco Morsch (marco.morsch@mq.edu.au).

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Policy

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 and monthly bulletin if appropriate. Such requests should be directed to the ANS Secretary.

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