

MARCS Spotlight

Welcome to the MARCS Institute for Brain, Behaviour and Development Spotlight.

Student and staff researchers enjoyed participating in the [Westmead Research Hub Conference](#) and the South Western Sydney Local Health District [Health Beyond Research and Innovation Showcase](#) last month joining colleagues from Western and both LHDs.

We're looking forward to new research partnerships getting underway with Google and [Multicultural NSW](#). More of our 2024 cohort of International Visiting Scholars visiting from the USA, Germany, UK and Greece in November. The 2025 International Visiting Scholars scheme will open soon, so be sure to keep an eye out on social media for details.

Before the end of the year our [Artscience Lab](#) will host Artist In Residence, [Rhiannon Newton](#) developing their [Long Sentences](#) project. Fabulous work still to come for 2024. Do stay in touch!

Professor Kate Stevens

Director, MARCS Institute for Brain, Behaviour and Development
Provost, Westmead Campus



Celebrating Student Successes



Our Higher Degree Research (HDR) Candidates are continuing to shine. Congratulations to our five PhD Candidates whose degrees are being conferred in upcoming rounds: [Eylem Altuntas](#), [Yanping Li](#), [Samalika Perera](#), [Pablo de Abreu Urbizagastegui](#), and [Jenny Yu](#). We look forward to celebrating your graduations with you in the new year. Welcome to our New HDR Candidates: Mina Aghaei, Benjamin Brandwood, and Ritwik Jain.

Next week we celebrate the first graduates of the new [Masters of Neuromorphic Engineering](#): Joshua Freund and [Damien Rice](#). Congratulations on your achievements!

Congratulations also to our HDR Candidates who have had their first lead papers accepted for publication this quarter - a marker of scholarship and academic impact:

- [Pablo de Abreu Urbizagastegui](#): *Memory-efficient neurons and synapses for spike-timing-dependent-plasticity in large-scale spiking networks* in [Frontiers in Neuroscience](#)
- [Samuel Dakey](#): *Towards cultural inclusion for older adults from culturally and linguistically diverse communities: A commentary on recent aged care reforms*, soon to be published in the [Australasian Journal on Ageing](#).

In other news, at the Western [HDR Conference](#) in September, [Luiza Lucuța](#) won the People's Choice Award in the Creative Thesis competition for [her song about Music and Speech in the Brain](#). [Salman Nadeem](#) has been awarded a Western Industry Doctoral Internship Program Bursary to complete a 3 month internship with Cochlear Ltd as part of his HDR Candidature.



All the best to our candidates presenting at upcoming conferences including [Australasian Cognitive Neuroscience Society Conference](#) and [The 19th Australasian International Conference on Speech Science and Technology](#).

Research Prize Success

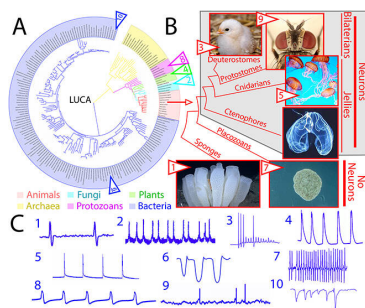


[Australian 'MemoryAid' project awarded share of \\$2.9 million as finalists in UK's prestigious Longitude Prize on Dementia](#)

Developed by a team from Western Sydney University and Deakin University, MemoryAid is the only Australian Finalist in the Global Top 5. The multidisciplinary research team has been awarded over \$580,000 AUD to develop their digital solution that aims to empower people living with dementia to maintain their independence and stay connected with loved ones.

Research In Focus

The ageing population in Western Sydney reflects a broader global trend associated with healthcare, social systems, and community planning. A White Paper, [Ageing Well in Western Sydney and Beyond](#), authored by [A/Prof Joyce Siette](#) and researchers from Western Sydney University, delves into the topic, offering insights into challenges and successes that support healthy inclusive communities.



[Travis Monk](#) and colleagues at [ICNS](#) have recently published in Neural Computation a review of [electrical signaling beyond neurons](#), comparing neural action potentials to those of simpler neuron-less organisms like bacteria and plants. The authors suggest the main goal of the nervous system is to detect extremely weak signals from noisy sensory spikes under enormous time pressure, and discuss implications for neural computation.

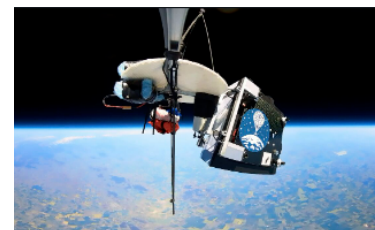
[Antonia Götz](#) and colleagues, reported a study that found 4 month old [infant's temperament is associated with how their parents talk with them, rather than to them](#). More adult-infant turn-taking was seen for infants who are introverted or those with lower attention regulation. But no relationship was found between infant temperament and number of words or type of speech (i.e. using infant-directed speech).



[Roger Dean](#) and Sandra J Evans have proposed a unified approach to encouraging [novel music creation across all cultures](#), including using computational technology, through interacting six fundamental components of music: rhythm, pitch, timbre, dynamics, hierarchical structure and creator-interaction. They conclude that creators can strive both to respect traditions and cultural sensitivities, and to evolve new types of music.

Neuromorphic Event-based Cameras take flight

Congratulations to [Nic Ralph](#) and colleagues on a recent successful high-altitude balloon test into the near-space region. Reaching a height of over 108,000 ft (33,000m), two neuromorphic event-based sensors will now be used for natural disaster monitoring, high-altitude lightning observations, and investigate the potential for performing space tracking tasks from above the clouds. [Read more about the launch here.](#)



Research Engagement

Did you see the researchers from across ICNS, BabyLab and the Cognitive Neuroscience Group at this year's Sydney Science Festival Family Day hosted by Powerhouse Museum Parramatta in Parramatta Square? As you can see

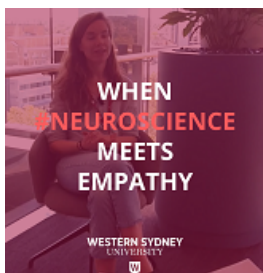
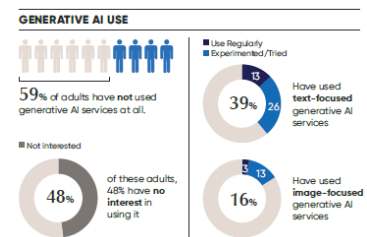
below they were busy all day, sharing their work at the 'Meet a Scientist' sessions, giving Main Stage presentations, or at one of our booths with live demonstrations.



In the Media

In case you missed these engaging articles in [The Conversation](#):

- [Anna Fiveash](#) shared insights into how personality, work and music type impact whether [listening to music can increase work productivity](#).
- [Gabrielle Weidemann](#) shared new research on [what causes food cravings? And what can we do about them?](#), showing cues in our environment prompt us to look for certain food categories.
- [Simon Chambers](#) with [Tanya Notley](#) and colleagues reported that improved media literacy is vital given [most Australians are worried about artificial intelligence](#).



Research by [Hannah Sarvasy](#), also featured in a recent article in Audubon Magazine: [Do you speak Warblish?](#)

Be sure to follow us on [LinkedIn](#), [X](#), and [Facebook](#) to keep in touch with all our latest research news like [this interview](#) with [Dr Sophie Smit](#) explaining her research into the [Neuroscience of Empathy](#).

Celebrating MARCS Staff



This quarter we celebrated one of our most important staff members - our Institute Manager, [Darlene Williams](#) who has been diligently and expertly managing our Institute - even before it became an Institute - for 20 years. Her dedication and professionalism along with her sense of humour are integral to the life, culture and success of our Institute. It was wonderful to recognise and celebrate this significant milestone with her.

We also congratulate [Prof André van Schaik](#) on his incredible achievements and transformative Directorship of ICNS, as he relinquishes his role at the end of 2024 and returns to his research professor role with ICNS in January 2025. Under André's leadership, BENS since 2011 and ICNS since 2018 have flourished and succeeded on the world stage with a range and depth of [research discoveries](#). There are exciting and

impressive plans on the horizon for ICNS with André very much involved and as [A/Prof Greg Cohen](#) steps up as Acting Director.

Next month we will be holding a special afternoon tea to recognise our three Institute nominees for the [2024 Vice Chancellor's Excellence Awards](#): [Charis Chua](#), our Senior Administration Officer, Lifespan Labs, Nominated for Service Excellence, [A/Prof Mark Antoniou](#) Nominated for Excellence in Postgraduate Research, Training and Supervision, and [A/Prof Greg Cohen](#) Nominated for Excellence in Research - Researcher of the Year. We are so proud of their achievements and the outstanding contribution they make to the Institute.



What's coming up?



Music & Speech Science Day, 28 October 10am - 2:30pm

This free [workshop](#) will feature three international guest speakers: [A/Prof Reyna L Gordon](#), [Dr Srishti Nayak](#), [Prof Daniela Sammler](#) and a Discussion Panel. Join us in the Anne Cutler Seminar Room, Westmead Innovation Quarter or on zoom. [Register here](#).



Artists In Residence

Our [Artscience Lab](#) is hosting two Artists in Residence: [Rhiannon Newton](#) developing their [Long Sentences](#) project from 11 November - 6 December 2024 and [Nita Little](#) with their [Institute for the Study of Somatic Communication](#) project from 28 - 31 January 2025.



Mini Expo: Celebrating International Day for People with a Disability

Our [Age Lab](#) will be taking part in the celebrations at Parramatta Library on December 3. Visit the [City of Parramatta website](#) for more details closer to the event.

<https://www.westernsydney.edu.au/marcs>