



MARCS Spotlight

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

2024 is shaping up to be another incredible year of research for the Institute as we continue to build on the successes of 2023. This month we celebrated our 16 undergraduate summer scholars who joined us from December 2023, with fantastic research projects in topics from across the Institute. We wish the students all the best with their future studies.



Our International Visiting Scholar Program received a number of applications this year and we are happy to announce we'll be welcoming 3 PhD Students and 7 Post-Doctoral researchers throughout the year from around the world including Canada, Finland, UK, Germany, Greece, France, China and more. We look forward to fruitful collaborations that will arise from these visits.

On 26th March we will also be celebrating the inaugural recipient of the Denis Burnham Award for Doctoral Student Transition. It will be a great event acknowledging Emeritus Prof Denis Burnham's generous gift to Western and special guests Denis, Prof Deborah Sweeney (Deputy Vice Chancellor, Research, Enterprise and International), and Christian Burden (Executive Director, Advancement). [RSVP here](#).

We hope you enjoy this snapshot of the Institute.

Professor Kate Stevens

Director, MARCS Institute for Brain, Behaviour and Development

Grant Successes



[Dr Sandra Garrido](#) has received a Dementia Australia Research Foundation Grant to continue building evidence for the **benefits of music programs in aged care**. For more information about the program check out this [case study](#).

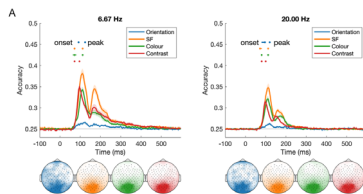
[Prof Paul Breen](#) and team, along with collaborators from the University of Wollongong and 3Aim Solutions have been awarded up to \$100,000 from the NSW Government's Small Business Innovation & Research Program (SBIR), to explore the feasibility of a radar-based solution paired with AI to monitor vital signs for 'at-risk' individuals while they are in prison **to prevent self-harm and reduce suicide risk**.





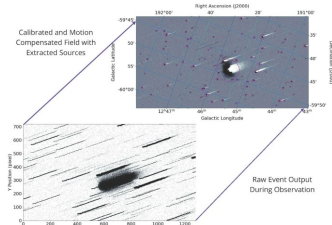
[Dr Mark Richards](#) and colleagues, in collaboration with Indigenous lead investigators Dylan Berger and Michael Jarrett (Uncle Micklo) from Gumbaynggirr country, have been awarded \$600,000 from the NSW Aboriginal Languages Trust to conduct a case study of **Gumbaynggirr Language and Culture** revival, develop research tools and design and implement a **10-year longitudinal study** of the impact of the Gumbaynggirr education model.

Research In Focus



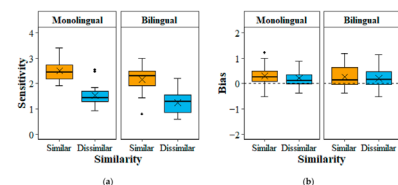
[Dr Tijl Grootswagers](#) investigated the foundational computations in the human **early visual cortex** that underlies visual perception. Using electroencephalography (EEG), he found **visual features of orientation, spatial frequency, contrast and colour are processed simultaneously in the brain, all with distinct dynamics.**

[Dr Ruth Brookman](#), [A/Prof Celia Harris](#) and colleagues explored carer's values and priorities for technology development in dementia care. They found carers want technology to be person-centred, customisable, and to increase opportunities for meaningful social connection; that **technology is needed to enhance, not replace human-to-human social interactions.**



[Dr Nic Ralph](#) and team from ICNS has published **new techniques and systems that can be used for calibrating an event-based camera for real-world space situational awareness** tasks such as tracking space junk or satellites.

[Prof Paola Escudero](#) with collaborators from the University of Potsdam studied discrimination of vowels in very different english accents: Australian & Northern England. They found **similar patterns of perceptual difficulty for monolinguals and bilinguals,** suggesting it's a challenge even for people with more exposure to an accent.



Welcoming our new Staff

Welcome to all our new [staff](#) across the Institute and International Centre for Neuromorphic Systems who have recently joined us: Postdoctoral Research Fellows (ICNS): **Yeshwanth Bethi**, **Dr Sergio Chevtchenko**, **Evie Andrew**; Postdoctoral Research Fellow (Cognitive Neuroscience): **Sophie Smit**; Research Officer (ICNS): **Samalika Perera**; Ignite Intern (ICNS): **Lashaye Sansbury**.



Special welcome to our two new Predoctoral Research Fellows - Dharug: **Jasmine Seymour** and **Corina Norman** (Pictured left). These new positions were established in collaboration with the DVC-Indigenous Leadership Professor Michelle Trudgett and Director of Indigenous Learning & Teaching Professor Susan Page, consistent with University's Indigenous Strategy to build a profile of staff who are Indigenous, particularly in STEM, and to support career development for Indigenous scholars at Western. We are honoured to have Jasmine and Corina as teachers and researchers on Dharug Country.

Celebrating our Students

Welcome to the newest PhD Candidates who have joined us recently: **Napat Sahapat** (ICNS) and **Eman Schatnawi** (Brain Sciences). We look forward to welcoming another 7 new PhD candidates in the coming months. There are 11 PhD theses currently under examination, so watch this space for many 2024 graduations.

Congratulations to **Jessica Chin** for being awarded a Student Poster Presentation Prize at Acoustics Sydney. Congratulations also to **Laura Dodds** for being featured in the [Women of Parramatta Count Her In](#) Campaign as part of International Women's Day 2024.



If you are interested in finding out more about the incredible and diverse research our Higher Degree Research (HDR) Candidates are doing, come along to the [HDR Forum](#) on 30th April - 1st May.

Highlights from 2023 ICNS Neuroeng Workshop

The [2023 ICNS Neuroeng Workshop](#) was a resounding success. Thanks to everyone who contributed including Keynote Speakers: Professor Tobias Delbrück and Dr Elisa Donati (Institute of Neuroinformatics, Zürich), Associate Professor Chetan Singh Thakur (Indian Institute of Science), Professor Ralph Etienne-Cummings (Johns Hopkins University) and Dr Peter Roming (Southwest Research Institute). Check out the highlights below:



Strengthening Community Connections

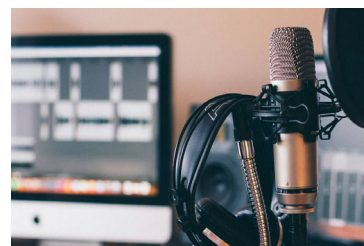


[Dr Fran Doyle](#) speaking at the City of Parramatta Library about common childhood emotional and behavioural challenges and ways to help; Performance of "[Shh!](#)" by [Lisa Brickell](#) (using music, drama and humour to raise awareness of the trials women may face after childbirth) was held in our [Level 7 Performance Studio](#) earlier this month; [Babylab Team](#) in action at the Pregnancy, Babies and Children Expo attended by close to 10,000 guests sharing the science of child development and raising awareness of infant research with parents and parents-to-be.

In the Media

[Dr Ruby Lipson-Smith](#) was interviewed on the [Hearing Architecture Podcast](#) by the Australian Institute of Architects about the NOVELL Redesign project, a Living Lab that brings together people with lived experience of stroke, policymakers, researchers and architects to co-design stroke rehabilitation environments.

[A/Prof Mark Antoniou](#) was featured in a [New York Times](#) article on the benefits of bilingualism for the ageing brain.



[Dr Steffen Herff](#) was featured in two ABC Classic posts recently on [using the power of music through your wellbeing journey](#) and [music and memory](#).

[Dr Tijl Grootswagers](#) was interviewed by [Science Magazine](#) and [Bloomberg](#) on insights from AI Technology and why detecting political deepfakes is a challenge.

What's coming up?



Brain Health Exhibition - Parramatta Library at PHIVE (11th March - 24th March)

Drop into Parramatta Library to learn about [maintaining a healthy brain](#) and have fun with the interactive and informative display during NSW Seniors Week.



Explore Ageing and Brain Health

This seminar from 10:30am - 11:30am at Parramatta Library at PHIVE, will be hosted by experts from our Age Lab. Connect with researchers in this interactive session and learn more about ageing and cognitive well-being. [Register here](#).



Denis Burnham Award for Doctoral Student Transition

Join us as we celebrate with Emeritus Professor Denis Burnham and the awardee of this inaugural annual award. [RSVP here](#).



HDR Forum 2024 (30th April - 1st May)

Join us for two full days of panel discussions, presentations, demonstrations and workshops showcasing the research of HDR Candidates from across MARCS Institute, including ICNS, and the NICM Health Research Institute. [Register here](#).

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

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