

CogSleep Centre of Research Excellence for Optimising Sleep in Brain Ageing and Neurodegeneration



Newsletter - July 2022



A message from the CogSleep CIA Prof Sharon Naismith

Welcome to the CogSleep newsletter for July 2022! Please read on for more details on the exciting events we have in store for this year, as well as news on media appearances, successful grants, and publications by our amazing CogSleep team.

We are so excited to announce that we will be hosting our fourth annual symposium in-person in Sydney across two half days on the 1st and 2nd of September 2022. This will be a hybrid event so that those who are unable to attend in-person may join virtually. We are developing an exciting program which includes amazing international keynote speakers in **Dr Elizabeth Coulthard** from University of Bristol, **Dr Jeffrey Iliff** from University of Washington, and **A/Prof Andrew Varga** from Mount Sinai Integrative Sleep Centre. The program will also offer fantastic opportunities for networking and to gather once again as a CogSleep community. Read on for more details about the symposium!



If you haven't already seen it, be sure to check out the CogSleep website (<https://cogsleep.sydney.edu.au/>), and please provide feedback or suggestions for content. The

website is a fantastic resource for fellow researchers, students, and patients. Check out the website for all the latest updates on CogSleep funding opportunities, research projects, media appearances as well as upcoming events featuring members of the CogSleep team.

As always, please follow and tag CogSleep on Twitter @cogsleep.

I hope you enjoy this edition of the CogSleep Newsletter!

Warm wishes,

Sharon

News from the Team

The 2022 annual Sydney Dementia Network Symposium was held on the 29th of April, chaired by our own **Prof Sharon Naismith**. **Prof Glenda Halliday** featured as the opening keynote speaker and presented on 'the common but overlooked vascular and TDP-43 pathologies in dementia – why should we care'. **Dr Loren Mowszowski** delivered the EMCR keynote presentation and spoke on "cognitive interventions for healthy brain ageing: pulling and pushing to close the research-to-practice gap".

The Brain and Mind Centre hosted a visit from F1 legend **Sir Jackie Stewart** in April. On his way to the Melbourne Grand Prix, he dropped in with Dementia Australia to meet **Dr Andrew McKinnon**, who holds the Sir Jackie Stewart Race Against Dementia Fellowship, working with the Healthy Brain Ageing Clinic to examine how sleep contributes to the build-up of amyloid and tau in the brain. Andrew is working in collaboration with our CogSleep collaborators **A/Prof Stephanie Rainey Smith** in WA, as well as with researchers in Newcastle and Brisbane. He has recently commenced a secondment to the CSIRO in Brisbane to develop his expertise in data science and machine learning approaches for application to actigraphy and neuroimaging data.





Prof Ron Grunstein spoke at the Idiopathic Hypersomnia and Narcolepsy Education Day in April in Brisbane and was made a Fellow of the Thoracic Society of Australia and New Zealand in March 2022. This award recognises those members with sustained and exceptional expertise and experience in respiratory/sleep medicine and/or research and/or respiratory health service provision and acknowledges Professor Grunstein's major contribution and commitment to advancing respiratory/sleep health in Australia and New Zealand.

Prof Sharon Naismith presented to the Faculty of Old Age Psychiatry in Victoria in March 2022 on 'sleep in mood and neurodegenerative disease'. She also presented at the Australasian Sleep Association Network of Early Career Sleep Researchers in Training (NEST) webinar titled 'climbing the sleep ladder: how to become a future leader in research'.

Prof Sharon Naismith chaired the Prevention Stream of the Australian Dementia Research Forum. **Dr Angela D'Rozario** spoke on sleep and dementia bidirectionality and **Prof Ralph Martins** spoke about the plans for the AU-ARROW trial, of which there will be a sleep sub-study.

Dr Camilla Hoyos travelled to San Francisco to present at the American Thoracic Society on the outcomes of their trial examining the effects of CPAP on memory and other cognitive functions for people with MCI. Many CogSleep members were involved in this trial, which has been integral in informing the ReShaped multisite NHMRC trial.

Prof Sharon Naismith is the incoming chair (from July 2022) of the Sleep and Circadian ISTAART Professional Interest Association (PIA) of Alzheimer's International. Look out for their content in this year's conference as well as for their webinars. Next year's conference will be in Amsterdam!

Very well-deserved achievements, congratulations to all!

Grant News

Since the last newsletter, there have been a number of exciting grants awarded to members of the CogSleep team.

Prof Simon Lewis was awarded a \$462,501 grant as part of the 2021-European Union Joint Programme on Neurodegenerative Disease Research (JPND) as part of the COgNiTive propagation in PRodrOmal Parkinson's Disease: CONTROL-PD.

A/Prof Clare Anderson and fellow CIs **Prof Paul Maruff**, **A/Prof Yen Ying Lim** and **Prof Sharon Naismith** were awarded a Faye Williams Innovation Grant (\$375,000) from Dementia Australia for their project "Elucidating the role of sleep in Alzheimer's Disease pathology: innovation in sleep technology and biomarkers".

Several CogSleep researchers were awarded part-funding as a "developmental" Clinical Academic Group (\$10,000) with Sydney Health Partners – **Prof Brendon Yee**, **Dr Angela D'Rozario**, **A/Prof Christopher Gordon**, **Dr Sheila Sivam**, **Prof Ron Grunstein**, **Dr Camilla Hoyos**, **Dr Elie Matar**, **Dr Chris Seton**, **Prof Tim Lambert**, **Dr Keith Wong** – with the purpose of bringing together clinicians and academics working across the sleep health space to improve collaboration and better enable the implementation of research into clinical services.

Congratulations to all, we look forward to seeing your work develop!

In the Media

[Waking up tired? Why sleep apnea might be to blame](#)

Dr Angela D'Rozario, 12/3/2022, House of Wellness.

[CPAP reverses OSA impacts on the brain](#)

Dr Angela D'Rozario, 24/2/2022, The Limbic.

[The Australian study uncovering what happens in the brains of people with sleep apnoea](#)

Dr Angela D'Rozario, 15/2/2022, ABC News Breakfast, ABC Mornings, ABC News at Noon, ABC online, MSN, District Bulletin; ABC Radio (regional and national AM and FM stations), 2GB +12 stations.

Benefits of music for preventing dementia

Prof Sharon Naismith, 6/4/2022, 2SER Community Radio Station.

Music and neuroplasticity

Prof Sharon Naismith, 25/3/2022, 2GB (873am).

Masters and PhD Completions

Congratulations to **Ping-Hsiu Lin** who completed his Master's dissertation, titled "Functional change in older adults 'at risk' of dementia". Supervisory team: **Dr Loren Mowszowski**, **Dr Haley La Monica** and **Prof Sharon Naismith**.

Congratulations to **Dr Shawn Kong** who has been awarded his PhD, titled "Brain-heart modulation of the autonomic nervous system in older adults "at-risk" of dementia: A study of heart rate variability during sleep". Supervisory team: **Prof Sharon Naismith**, **Dr Camilla Hoyos**, **A/Prof Christopher Gordon**, **Dr Andrew McKinnon**, and **A/Prof Craig Phillips**.

Congratulations to **Dr Aaron Lam** who has been awarded his PhD, titled "Characterising obstructive sleep apnoea in memory clinics: Hypoxemia, memory and structural brain changes".

Supervisory team: **Prof Sharon Naismith, Dr Angela D'Rozario, Prof Ron Grunstein and A/Prof Craig Phillips.**

Update from CogSleep Academy

The CogSleep Academy is now under new leadership with **Dr Shawn Kong** co-leading with **Zoe Menczel Schrire** – welcome Shawn! As well as this, we are going to add to the team with a spokesperson from all of the major institutions to help us keep everyone engaged and to let us know about any new publications or exciting news. However, we also encourage you all to please email us directly if you have anything exciting to share, as we'd love to help promote you on Twitter and in our meetings. We are going to aim to have meetings every few months and it would be great to see everyone there – it's a great opportunity to network with like-minded researchers from around Australia, learn about new research and practice your talks if you are giving any. If you have any talks you would like to practice for an upcoming conference – please send us an email so we can organise for you to talk at the next meeting. Also stay tuned for later in the year as the 2022 CogSleep Collaborative Project Award is making a comeback – a great opportunity to collaborate with new researchers outside of your team. Lastly – we are excited to see some of you in person at the CogSleep Symposium in September! We are going to have a dedicated CogSleep Academy workshop. Keep an eye out for travel grants which will be released in the coming months!

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Upcoming Funding Opportunities

Postgraduate Research Scholarship in Sleep, Vascular Function and Cognition

A fantastic opportunity for a scholarship to undertake postgraduate research (PhD/MPhil) with **Dr Camilla Hoyos**. This scholarship is funded by the Heart Foundation for the 2020 Future Leader Fellowship: Targeting the heart optimise healthy brain ageing in different at risk populations across adulthood. Click here for more information.



Researcher Spotlight: Dr Craig Phillips and the OSA Clinic

We would like to congratulate Dr Craig Phillips on his appointment as Associate Professor at Macquarie University in the Macquarie Medical School within the Faculty of Medicine, Health and Human Sciences.

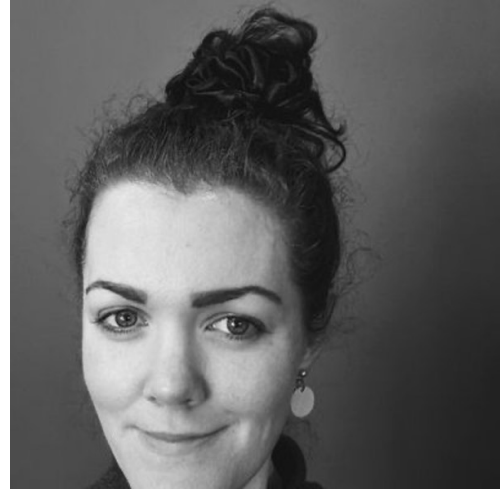
Craig is also the chief investigator of a 3-year study funded by an NHMRC Ideas Grant which will use new novel blood assays to measure the 24-hour sleep-wake blood concentration profiles of brain-derived metabolites that underpin dementia in people with OSA. The study design will use OSA treatment withdrawal for 2 weeks to switch on OSA, fragment sleep and increase hemodynamic disturbances to understand their impact on inhibiting the brain cleaning (glymphatic clearance) process. High density EEG will

be used to measure slow wave sleep disturbance. Finger blood pressure will measure blood pressure disturbances. These disturbances will then be used to model the sleep-wake brain metabolite profiles to better understand production and clearance pathways.

We look forward to hearing more about this project!

ECR Spotlight: Samantha Bramich

Samantha has been a sleep scientist at the Launceston General hospital for the past 10 years and completed her Master of Science in Sleep Medicine at the University of Sydney in 2019. She has a keen interest in the impact of sleep on health and is currently a PhD student with the Wicking Dementia Research and Education Centre at the University of Tasmania. Her research is focused on REM sleep behaviour disorder (RBD) and neurodegeneration, looking at the prevalence and profiles of RBD in older Tasmanian adults. She and her research team, including supervisor Prof Sharon Naismith, have recently launched the first part of the ISLAND Sleep Study, which includes several questionnaires about RBD symptoms, sleep efficiency, OSA, and other related factors. These questionnaires have already been completed by over 1600 participants, with more expected in the coming months. This data set will be used to determine the prevalence of probable RBD in Tasmania (the first RBD prevalence study in Australia), as well as investigating other factors associated with the disorder, such as autonomic dysfunction, pain and COVID-19. Future projects will involve home-based sleep studies to determine the actual prevalence of RBD, as well as olfactory testing and actigraphy monitoring of this RBD cohort.



ECR Spotlight: Dr Aaron Lam

Aaron recently completed his PhD at the University of Sydney, where he examined the role of obstructive sleep apnoea on memory, the hippocampus, and white matter microarchitecture in older adults at memory clinics. His research interest includes sleep disorders, neurodegenerative diseases, neuroimaging (grey matter volume, white matter connectivity and microarchitecture), and neurophysiology.

He is currently the USYD site co-ordinator for the RESHAPED trial and has recently begun his post-doctoral position under Dr Angela D'Rozario at the Woolcock Institute of Medical Research. His current work aims to understand the longitudinal impact and interaction of both obstructive sleep apnoea and mild cognitive impairment on sleep neurophysiology in older adults at-risk of dementia.

Upcoming Events

Wednesday 30th August 2022, time TBC, we will be hosting a GP seminar titled 'Sleep and the Ageing Brain – Applying the Evidence'. More details to come!

Save the date! CogSleep is excited to announce that this year we will be hosting our annual symposium in-person on **Thursday 1st and Friday 2nd September, 2022**. The event will be held in Sydney, with networking events, CogSleep Academy catch-ups and an exciting program featuring leading national and international researchers in **Dr Elizabeth Coulthard** (University of Bristol), **Dr Jeffrey Iliff** (University of Washington) and **A/Prof Andrew Varga** (Mount Sinai Integrative Sleep Centre). We will also be hearing about the range of incredible work being conducted across the CogSleep network from researchers at all career stages, including **Prof Glenda Halliday** (USyd), **Dr Ben Sinclair** (Monash University), **Dr Melissa Ree** (UWA), **A/Prof Clare Anderson** (Monash University), **Dr Stephanie Ward** (UNSW) and more! CogSleep Students and Early Career Researchers will have the opportunity to apply for travel awards (more details to come!) and we aim to get as many people together in Sydney as possible. The event will be offered as a hybrid event, so that those who are unable to attend in-person may join virtually. If you have ideas or suggestions for the program, please contact **Julia Chapman**, julia.chapman@sydney.edu.au, Chair of the Symposium 2022 Organising Committee. (Committee members: A/Prof Christopher Gordon, Dr Camilla Hoyos, Rebecca Kerestes, Dr Shawn Kong, Alessandra Lee, Dr Elie Matar, Dr Jade Murray, Prof Sharon Naismith, and A/Prof Matthew Pase).

8th-11th November 2022, the Sleep DownUnder 2022 hybrid conference will be held in Brisbane, Australia. The conference will feature two amazing international keynote speakers in Michael Perlis and Jean-Louis Pepin, along with the latest research and insights from across the sleep spectrum. For more information, please visit their website, [here](#).

Publications

[A systematic scoping review of the effects of central nervous system active drugs on sleep spindles and sleep-dependent memory consolidation.](#)

Leong CWY, Leow JWS, Grunstein RR, Naismith SL, D'Rozario AL*, Saini B*. Sleep Medicine Reviews. 2022. Advanced online publication (*joint first/last authors).

[Book Chapter: Sleep Disorders in Later Life.](#)

Palmer JR, McKinnon AC, Bei B, Naismith SL. In: Asmundson, G.J.G. (Ed), Comprehensive Clinical Psychology, 2nd edition, vol. 7, pp. 235–251. 2022.

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[Cerebrospinal Fluid Neurofilament Light Predicts Risk of Dementia Onset in Cognitively Healthy Individuals and Rate of Cognitive Decline in Mild Cognitive Impairment: A Prospective Longitudinal Study.](#)

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[Does sleep apnea exacerbate adverse driving behaviors and accident risk in drivers with preclinical markers of Alzheimer's disease?](#)

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[Dynamic network impairments underlie cognitive fluctuations in Lewy body dementia.](#)

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[Examining the presence and nature of delusions in Alzheimer's disease and frontotemporal dementia syndromes.](#)

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[Identifying subtle functional change in individuals with Mild Cognitive Impairment: Development and validation of the Healthy Brain Ageing - Functional Assessment Questionnaire, Aging, Neuropsychology, and Cognition.](#)

Lin P, LaMonica HM, Naismith SL, Mowszowski L. Aging, Neuropsychology and Cognition. 2022.

[Improvements in cognitive function and quantitative sleep electroencephalogram in obstructive sleep apnea after six months of continuous positive airway pressure treatment.](#)

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