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ABSS Newsletter - April 2026

ABSS committee welcomes new individuals

The Australasian Brain Stimulation Society (ABSS) is pleased to confirm that the member voting process for the ABSS Executive Committee and selection of the Student Representative position has been completed.

We extend our sincere appreciation to all candidates who expressed their willingness to serve, as well as to the members who contributed by participating in the voting of new Executive Committee members. The newly elected Executive Committee and Student Representative will play a key role in guiding ABSS initiatives, strengthening collaboration across the region, and advancing the field of brain stimulation research and clinical practice.

New Executive Committee members: Merrick (Wei-Yeh) Liao (University of Adelaide), Cassandra Russell (University of Wollongong)
New Student Representative: Cindy van Sleeuwen (University of Otago)

Upcoming ABSS webinar

Date: Wednesday 15th April, 13:00 AEST (11:00 AWST)

Speaker: Rebecca Ong

Title: Subthreshold repetitive transcranial magnetic stimulation induces cortical layer–, brain region–, and protocol-dependent neural plasticity

Abstract: Repetitive transcranial magnetic stimulation (rTMS) is commonly used to study the brain or as a treatment for neurological disorders, but the neural circuits and molecular mechanisms it affects remain unclear. To determine the molecular mechanisms of rTMS and the brain regions they occur in, we used spatial transcriptomics to map changes to gene expression across the mouse brain in response to two commonly used rTMS protocols, intermittent theta burst stimulation (iTBS) and continuous theta burst stimulation (cTBS). Our results revealed that rTMS alters the expression of genes related to several cellular processes and neural plasticity mechanisms across the brain, which was both brain region- and rTMS protocol-dependent. In the cortex, the effect of rTMS was dependent not only on the cortical region but also on each cortical layer. These findings uncover the diverse molecular mechanisms induced by rTMS, which will be useful in interpreting its effects on cortical and subcortical circuits.

Speaker bio: Rebecca Ong is a PhD candidate in the Healthy Brain Ageing and Repair Lab at the University of Western Australia and the Perron Institute. Her research is focused on investigating the potential of repetitive transcranial magnetic stimulation (rTMS), a commonly used form of non-invasive brain stimulation, as a tool to promote healthy brain ageing. Currently, little is known about the molecular and cellular mechanisms underlying the therapeutic effects of rTMS, particularly the impact ageing has on its effectiveness as a treatment for older populations. Using transcriptomics and spatial biology techniques, she hopes to understand the effects of rTMS on the cells of our brain as we age, ultimately optimising rTMS as an intervention to maintain a healthy functioning brain.

Zoom link: https://uqz.zoom.us/j/88666024206
Meeting ID: 886 6602 4206

Past ABSS webinar recordings

For those that missed recent ABSS webinar presentations by Aaron McInnes and Jonathan Shemmell, we have now included recordings of these webinars on the ABSS YouTube channel.

See: https://www.youtube.com/@australasianbrainstimulati6329

Meet your new ABSS student representative!

Cindy van Sleeuwen,
PhD candidate,

University of Otago



What is your research about and how does it relate to brain stimulation?
As part of my PhD project, I am running a proof-of-concept clinical trial that investigates a new electrical brain stimulation approach to improve symptoms in adults with anxiety and/or depression. The approach utilises a grey noise waveform that targets key hubs of the triple network (i.e., Salience, Central Executive and Default Mode Networks) shown by previous literature to be associated with anxiety and depression.

What is your favourite activity outside of work?
When I am not working, you can often find me swimming in the ocean. I swim all year around (yes, even in the cold Dunedin winters!) with a lovely group of swimmers called the Frozen Seadogs. I am also a volunteer Surf Lifeguard over the summer months. I really like being in the water, it leaves you feeling great every time.

Member spotlights

Based on feedback, we will be looking to re-include a ‘ABSS Member Spotlight’ section to future newsletters. If you are interested in having your profile and area of research featured, or have an ABSS member you would like to put forward for this please contact info@abssociety.com

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ABSS student and ECR engagement survey - Please respond

Are you an honours, masters, or PhD student involved brain stimulation research? Or are you an ECR? Please fill in our survey (see link below).

ABSS is seeking input from students and ECRs to better understand your background, needs, and priorities. Your responses will help us design relevant events, programs, and opportunities in 2026 and beyond.

Link to survey:
https://docs.google.com/forms/d/e/1FAIpQLSfDnzBGrKStlP86GxmvgIYL4tizrq40pHnUyuj0Ikzp-fSztw/viewform?usp=dialog

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Recent papers from Australasian brain stimulation researchers!



Clinical Neurophysiology
Available online 22 March 2026, 2111858
In Press, Journal Pre-proof What's this?



Mild traumatic brain injury alters function in the dorsolateral prefrontal cortex: a TMS-EEG study

Emily Moore [a], Emily Webb [a], Ryoki Sasaki [a], Nigel C. Rogasch [a b c], Ngee Foo [d], John G. Semmler [a], George M. Opie [a]

Article link: https://doi.org/10.1016/j.clinph.2026.2111858



Clinical Neurophysiology
Volume 185, May 2026, 2110776



Combined TMS and transcranial alternating current stimulation induced neuroplasticity in tremor-dominant Parkinson's disease

Jane Tan [a b], Brittany K. Rurak [a b], Rick C. Helmich [c d], Julian P. Rodrigues [e], Brian D. Power [e f], Peter Drummond [a b], Hakuei Fujiyama [a b g], Ann-Maree Vallence [a b g]

Article link: https://doi.org/10.1016/j.clinph.2025.2110776



Brain Stimulation
Volume 19, Issue 2, March–April 2026, 103035



An analysis of daily 10 Hz and accelerated theta burst transcranial magnetic stimulation on suicidality in treatment resistant depression

Andris Cerins [a b 1], Sera Manuele [a b 1], Elizabeth H.X. Thomas [a b], Lisanne M. Jenkins [a b c], Alexander McGirr [d e], Paul B. Fitzgerald [f], Leo Chen [a b g h]

Article link: https://doi.org/10.1016/j.brs.2026.103035

European Journal of Applied Physiology (2026) 126:359–373
https://doi.org/10.1007/s00421-025-05904-0

ORIGINAL ARTICLE



Investigating the effects of age and conditioning stimulation intensity on SMA–M1 connectivity in younger, middle-aged, and older adults

Jane Tan[1,2] · Grant Rowe[1] · Rohan Puri[3] · Merrilee Needham[4,5,6,7] · Michelle Marneweck[8] · Shivani Radia[1] · Ann-Maree Vallence[1,2,4]

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Article link: https://link.springer.com/article/10.1007/s00421-025-05904-0

If you, or any of your students/colleagues in Australia or New Zealand have recently published a paper related to brain stimulation, then please reach out to get it featured in our next newsletter! Contact: jthorste@bond.edu.au

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ABSS on socials

Reminder that the ABSS has LinkedIn and Bluesky pages, as well as our Twitter (X) and YouTube pages. Make sure you follow us across all social media platforms to avoid missing out on posts and society updates! Simply click the icons at the bottom of this newsletter or enter the details below.

LinkedIn:

https://www.linkedin.com/company/australasian-brain-stimulation-society-abss

or search “Australasian Brain Stimulation Society (ABSS)” in LinkedIn

Bluesky:

https://bsky.app/profile/ausbrainstimsoc.bsky.social

@ausbrainstimsoc.bsky.social

Twitter (X):

https://x.com/abs_society

@abs_society

YouTube:

https://www.youtube.com/@australasianbrainstimulati6329

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