

National Centre for Neuroimmunology and Emerging Diseases

June 2026

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Our Mission

The National Centre for Neuroimmunology and Emerging Diseases (NCNED) is a research team located at Griffith University on the Gold Coast. Led by Professor Sonya Marshall-Gradisnik, the team has a focus on Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS), long COVID and Gulf War Illness (GWI).

Our mission is to translate research findings into preventative medicine, social and clinical care and public health outcomes. By collaborating with local, national and international research institutes, we aim to create sustained improvements in health and health care for not only those affected by ME/CFS and long COVID, but also other immune disorders.

INTERNATIONAL ME/CFS AWARENESS DAY 12 MAY 2026



For 14 years, NCNED has remained unwavering in its commitment to patients and their progress. Our mission has always placed patients first, and that dedication continues to guide everything we do. Each day, our researchers work with purpose and determination to better understand ME/CFS, improve quality of life and move closer to meaningful solutions. Your resilience inspires us and your progress drives our work forward.

In 2026, we continue to support ME/CFS patients by promoting and participating in international ME/CFS Awareness Day, while strengthening our long-standing commitment to advancing research that has the potential to solve this condition.

To mark this important occasion, together with lighting up campus buildings in blue, a special collage photo was created to represent 14 years of dedication to patient progress, symbolising both how far we have come together and the very real possibility of solving this condition.

We are deeply grateful for your ongoing support over the past 14 years. Your contributions to our research make this work possible and bring us closer to answers. Our commitment remains steadfast to continue pursuing breakthroughs and delivery outcomes that can meaningfully improve lives, with the ultimate goal of solving this condition.

PUBLICATIONS

In the last quarter, the NCNED team had the following papers accepted and published. Please access these papers using the links provided below:

Associate Professor Leighton Barnden, NCNED Researchers (pictured below) and our collaborator Professor James Baraniuk from Georgetown University, USA (pictured below right), published an important neuroimaging paper examining how the brain inter-network connectivity changes while healthy participants performed two consecutive sets of cognitive tasks: **Short term intrinsic connectivity changes induced by cognitive exertion in healthy subjects**, *Frontiers in Neuroscience*. You can read about the key findings via the link provided: <https://doi.org/10.3389/fnins.2026.1781534>



Researchers at the NCNED have long shown that dysfunction in ion channels—especially TRPM3, TRPM7 and TRPM2—disrupts calcium entry into cells, contributing to the underlying mechanisms of ME/CFS. Building on this work, this latest study advances the field significantly by using newly developed imaging technology to observe calcium movement inside living immune cells in real time—an achievement years in the making.



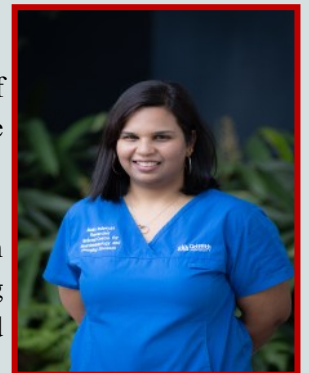
Ms Chandi Magawa (pictured left) and NCNED team members have published the associated paper **TRPM3-linked mitochondrial ca^{2+} influx in natural killer cells associated with Myalgic Encephalomyelitis/Chronic Fatigue Syndrome**, *BMC Immunology* and we provide access via the link below.

This NCNED study is the first to report significant TRPM3-calcium dependent pathway dysfunction entry into the mitochondria of people living with ME/CFS. You can read about this groundbreaking research via this link: <https://doi.org/10.1186/s12865-026-00849-1>

PhD student Ms Maira Inderyas (pictured right), together with NCNED Researchers, have published a significant study revealing how long COVID affects the brain: **“Investigation of BOLD signal intensities in long COVID patients using 7T fMRI”**, *Brain Behaviour and Immunity*.

NCNED used one of only two ultra-high-field 7 Tesla (7T) MRI scanners in Australia—capable of capturing the brain in exceptional detail without surgery. This advanced technology enabled the team to identify subtle changes that standard scans cannot detect.

This is the first study to use 7T MRI to show that people with long COVID have reduced brain activity during cognitively demanding tasks. Activity was lower in key brain regions, suggesting possible dysfunction, reduced blood flow, or tissue changes. Notably, brain activity declined further with longer illness and greater pain.



These findings provide clear evidence that long COVID can progressively impact the brain, helping to explain common symptoms such as memory difficulties and brain fog. You can read more about the findings here:

<https://www.sciencedirect.com/science/article/pii/S2666354626000992>

PARLIAMENTARY FRIENDS OF ME/CFS EVENT, CANBERRA



On 10 March 2026, Professor Sonya Marshall-Gradisnik, along with Research Fellows Dr Kiran Thapaliya, Dr Natalie Eaton-Fitch and Dr Etianne Sasso, (pictured left) attended the **Parliamentary Friends of ME/CFS Meeting for 2026**, held at Australian Parliament House in Canberra.

The event brings together parliamentarians, clinicians, researchers and people with lived experience to discuss the urgent needs of Australians living with ME/CFS and long COVID. The meeting focused on strengthening engagement between policymakers and the ME/CFS community, highlighting the challenges faced by people living with invisible and fluctuating symptoms, improving clinical care and disability support and emphasising the need for coordinated and prioritised research investment. Events like this are essential for building awareness and fostering collaboration between researchers, clinicians, policymakers and the community.

CONFERENCES/SYMPOSIUMS ATTENDED

Professor Sonya Marshall-Gradisnik (pictured right) presented at the **Association of Clinical Research Professionals (ACRP) annual Clinical Trial Day** which was held on International Clinical Trial Day. She presented the clinical trial research being conducted at NCNED.



Professor Marshall-Gradisnik was also invited to present at the **Biomedical Research into ME Colloquium, Invest in ME**, UK, 27-29 May 2026 where she, accompanied by Dr Natalie Eaton-Fitch, provided a presentation on *Crossing the Cell Membrane Threshold: Ion Channels, Calcium, and the Inner Cell Function*.

YOUNG EMERG INTERNATIONAL ME WORKSHOP UK 25-26 MAY

NCNED researchers were accepted to present at the **2026 Young EMERG International ME Workshop** as part of a two day Program.



Dr Natalie Eaton-Fitch (pictured left) presented findings on symptom presentation and health-related quality of life on Australia's largest dataset of people living with ME/CFS. This large-scale investigation highlights the significant symptom burden and reduced Health Related Quality of Life in Australians with ME/CFS, whilst emphasising the need for clustering and stratification for research in order to allocate resources.

This study forms a critical component of our multidisciplinary research which aims to not only identify pathomechanisms, but to improve diagnosis and wellbeing of people with ME/CFS.

These research findings are currently under review and we look forward to sharing these details with you all in the near future.

CONFERENCES CONTINUED

YOUNG EMERG INTERNATIONAL ME WORKSHOP UK 25-26 MAY (Continued)



NCNED Researcher Mr Tanoj Singh (pictured left), presented the latest diffusion MRI research findings in ME/CFS and long COVID at the Young EMERG Symposium 2026. Mr Singh showcased preliminary evidence of brain tissue microstructural alterations and demonstrated how advanced diffusion MRI modelling techniques can improve understanding of neurobiology underlying ME/CFS and long COVID.

His presentation emphasised the importance of incorporating advanced neuroimaging methods to enhance the knowledge of neurological features associated with these conditions.

NCNED Researcher Mr Tuong Huynh presented his preliminary findings at the Symposium to classify ME/CFS from healthy controls using machine learning algorithms. He identified the best machine learning algorithm and key MRI features that distinguish people living with ME/CFS from healthy controls.

This presentation reflected NCNED's ongoing commitment to improving understanding of neurological features associated with ME/CFS and fostering innovative machine learning strategies in the field.



WELCOME TO NEW STUDENT – RACHAEL DAVIS



NCNED welcomes Rachael Davis, a third-year Bachelor of Pharmacy (Honours) student, who will be completing her dissertation with our team. Her project will investigate how medications of interest affect natural killer (NK) cells in cell culture and explore the mechanisms of how these treatments impact on NK cells from people living with ME/CFS. This research will provide further insight into potential treatments for ME/CFS. We wish Rachael all the best as she undertakes her Honours dissertation with the NCNED.

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