National Centre for Neuroimmunology and Emerging Diseases

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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 Gullf 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.

PUBLICATIONS

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



Distinguished Professor Sonya Marshall-Gradisnik and Dr Natalie Eaton-Fitch (pictured left) have recently published findings from Australia's largest ME/CFS research registry, documenting poor health and wellbeing in people with ME/CFS. This research analysed patient-reported outcome measures collected over a 10-year period from 2,873 people with ME/CFS and 797 healthy controls enrolled in the NCNED National Clinical and Biological Registry, which now spans 15 years of registry data collection. The findings provide a growing body of evidence demonstrating that ME/CFS is a serious and life-altering condition, associated with substantial reductions in health-related quality of life and significant impacts on physical, social and emotional wellbeing. If you would like to read more about these impacts, please use the link below.

Eaton-Fitch N, Marshall-Gradisnik S: **Australian Registry Reports Poor Health and Wellbeing in people living with ME/CFS**, *Journal of Translational Medicine*, July 2026.



Dr Kiran Thapaliya (pictured right) and the NCNED team published the paper '**Disrupted glymphatic function and its relationship with sleep and cognitive impairment in ME/CFS assessed via DTI-ALPS'** in the June issue of *Frontiers in Neuroscience*. This study is the first to demonstrate impaired glymphatic function in ME/CFS patients using MRI, providing a mechanistic explanation for the inflammatory changes reported by other Australian and international teams. The glymphatic function is responsible for clearing the brain of metabolic waste products and is mostly active during sleep and disengaged while a person is awake. This suggests that dysfunction in the brain's natural cleaning system may be a key driver of this condition. Read more about these research outcomes in the paper.

PUBLICATIONS



Dr Etianne Martini Sasso (pictured left) and NCNED researchers were invited by the prestigious *Journal of Translation Medicine* to contribute a review examining the neurological and neurocognitive impacts of long COVID. The team explored the latest evidence that long COVID potentially affects the brain and nervous system, including how the virus itself could reach the brain, how it may trigger inflammation, and how it could disrupt the growth of new brain cells and damage blood vessels. Understanding these mechanisms is critical for developing monitoring strategies and targeted interventions to help protect cognitive health in people living with long COVID.

Sasso EM, Eaton-Fitch N, Thapaliya K, Marshall-Gradisnik S: **Neurological Impairment in Long COVID: Implications for Neurodegenerative Disease,** *Journal of Translational Medicine*, July 2026.



PhD candidate, Tanoj Singh (pictured right), a recipient of a Stafford Fox Medical Research PhD Scholarship, and NCNED researchers have recently published an original paper in *Frontiers in Medicine,* July 2026 titled "**Microstructural Alterations in Brain Tissue of ME/CFS and Long COVID Using Diffusion Tensor Imaging and Diffusion Kurtosis Imaging**". This study used advanced MRI techniques to examine subtle changes in the brain's tissue structure directly comparing ME/CFS, long COVID and healthy controls.

A key difference between the two conditions was found in the left corona radiata, an important brain communication pathway.

People with ME/CFS showed changes in brain areas involved in attention, memory, emotion, movement planning and communication between the brain's hemispheres. People with long COVID showed changes in regions linked to brain communication, visual processing, face recognition, and movement control. These findings suggest that changes in brain tissue microstructure (like myelin, axonal density) may contribute to common symptoms such as fatigue, brain fog and reduced physical function in both conditions.

NCNED INTRODUCES HIGH-CONTENT SCREENING SYSTEM



NCNED is excited to introduce the Opera Phenix Plus High-Content Screening System which will enable advanced, cutting-edge imaging to facilitate our research. This technology represents an important investment in innovative research to accelerate our discoveries in the pathomechanisms of ME/CFS, long COVID and GWI.

This equipment will provide new opportunities for high-content drug screening and potential drug repurposing.

We are so appreciative of this opportunity made possible by a grant for $1,465,000.00 received by Distinguished Professor Mashall-Gradisnik and Dr Eaton-Fitch.

AWARDS



Congratulations to Dr Etianne Martini Sasso (pictured centre left) who was awarded the ***Chancellor's Medal for Excellence*** for the PhD Thesis 2025: 'Characterisation of Ion Channel Function in the Pathogenesis of Myalgic Encephalomyelitis/Chronic Fatigue Syndrome, Post COVID-19 Condition and Gulf War Illness and Naltrexone as a Potential Pharmacological Intervention to Restore Ion Channel Activity'. This award is in recognition of her exceptional performance in her research higher degree, placing her as one of the highest achieving PhD graduates and the Griffith Health Group's top ranked candidate for 2025.



PhD candidate, Mrs Urooj Ishrat, was awarded a PhD Consumable Grant from ME/CFS Australia. Sarah FitzGerald, (pictured right with Urooj) Chair of ME/CFS Australia, visited NCNED to meet Urooj. NCNED would like to thank ME/CFS Australia for their ongoing support of our research and their continued investment in the ME/CFS researchers.



Ms Samara Melray (pictured left), NCNED Masters student, was a Heat Winner in the Griffith University Health Group Three Minute Thesis (3MT) for her presentation of The Battle Between PACAP and Natural Killer Cells in ME/CFS and long COVID (oral). Samara's Masters project focuses on the investigation of PACAP Neuropeptides and TRPM3 Modulation in NK Cells of people with ME/CFS and long COVID.

VISITING PROFESSOR



NCNED hosted Professor Katsuhiko Muraki, an expert from Nagoya University, Japan and long-time collaborator of NCNED, for specialised training as part of our ongoing confocal and patch clamp study with TRPM8 and other ion channels in ME/CFS, long COVID and GWI.

Master's student Tianyi Song is being trained by Professor Muraki to refine his confocal analysis technique for TRPM8, building valuable skills that will strengthen his research capabilities.

Research Assistant Jacob Batham is also receiving training from Professor Muraki, focusing on the patch-clamp technique, further developing NCNED's expertise.

This collaboration reflects the strength of our international partnerships and NCNED's commitment to advancing cutting-edge research techniques within the team.

SEVERE ME AWARENESS DAY—AUGUST 8



The team at NCNED stands with the entire ME/CFS community on Severe ME Awareness Day, acknowledging the challenges faces across all levels of illness severity, while drawing attention to people living with severe ME/CFS.

Our commitment to research is driven by the people behind the diagnosis. Every patient has a story, a family, aspirations and a life that deserves to be lived to its fullest.

To everyone living with ME/CFS: we see you, we are thinking of you and we are inspired by your strength and resilience. Your experiences remain at the heart of everything we do and your courage continues to motivate us in our pursuit of the research and breakthroughs needed to improve lives.

CONFERENCES/SYMPOSIUMS ATTENDED

Distinguished Professor Sonya Marshall-Gradisnik was invited to attend the Naval Association of Australia monthly gathering to deliver the key note address to members and guests of the Royal Australian Navy. The speech addressed NCNED's GWI research outcomes to date.

MEDIA

Dr Kiran Thapaliya's paper: Disrupted Glymphatic Function and its Relationship with Sleep and Cognitive Impairment in ME/CFS Assessed via DTI-ALPS, *Frontiers in Neuroscience-Translational Neuroscience,* June 2026 attracted a lot of media attention. If you'd like to view some of the reports, please use the links below to access:

https://news.griffith.edu.au/2026/07/03/brains-waste-clearing-ability-impaired-in-me-cfs-patients/
https://www.sciencealert.com/scientists-discover-a-potential-driver-of-chronic-fatigue-syndrome-hiding-deep-in-the-brain
https://www.news-medical.net/news/20260702/Study-reveals-impaired-glymphatic-function-in-people-living-with-MECFS.aspx
https://health.yahoo.com/conditions/neurological/articles/brain-scans-reveal-why-cfs-145217682.html
https://www.technologynetworks.com/neuroscience/news/brain-fog-in-mecfs-linked-to-waste-clearance-issues-414272
https://www.eurekalert.org/news-releases/1134732
https://www.voiceofemirates.com/en/health/2026/07/07/medical-breakthrough-faulty-sewage-system-identified-in-brains-of-chronic-fatigue-patients/
https://tlnews.com.au/brains-waste-clearance-system-is-impaired-in-people-living-with-myalgic-encephalomyelitis-chronic-fatigue-syndrome/
https://www.zmescience.com/medicine/mind-and-brain/brain-chronic-fatigue-syndrome/
https://gigazine.net/gsc_news/en/20260709-chronic-fatigue-syndrome-brains-waste-clearing/#gsc.tab=0

COMMUNITY ENGAGEMENT—IN SUPPORT OF ALL AFFECTED BY ME/CFS

Members of the NCNED team took part in the 5km Walk/Run at the 2026 ASICS Gold Coast Marathon, joining thousands of participants along the beautiful Gold Coast Broadwater.



Wearing specially designed "Running for Research" T-shirts, the team proudly represented the many individuals living with ME/CFS and long COVID, as well as their families, carers and supporters. The event provided a wonderful opportunity to raise awareness of these often misunderstood illnesses and to highlight the vital research being undertaken by NCNED.



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