National Centre for Neuroimmunology and Emerging Diseases

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In this issue:-

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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.

MERRY CHRISTMAS

FROM THE NCNED TEAM
Thank you to our supporters

The team at NCNED is looking forward to bringing you the results of more in-depth research in 2026 including the introduction of a new clinical trial. Keep up to date with our Facebook and web sites where we have pleasure in bringing you all the latest outcomes of the team's research.

APPRECIATION AND ACKNOWLEDGEMENT OF GRANTING ORGANISATIONS, AGENCIES, BENEFACTORS AND FUNDRAISERS

Stafford Fox Medical Research Foundation, the National Health and Medical Research Council, ME Research UK, McCusker Charitable Foundation, Ms Talei Stewart, Henty Community, Henty Lions Club, Mr Adrian Flack, Blake Beckett Trust Foundation, Alison Hunter Memorial Foundation, Buxton Foundation, Dr John Hamwood, Mr Johnny Fahey, and the Change for ME Charity.

GRIFFITH UNIVERSITY

PUBLICATIONS

The NCNED team would like to announce the publication of two new articles to bring 2025 to a close. We're pleased to share with you the following information:

Dr Kiran Thapaliya (pictured left) and NCNED Researchers have just published an important neuroimaging paper on the "Altered brain tissue microstructure and neurochemical profiles in long COVID and recovered COVID-19 individuals: A multi-modal MRI study." The findings were published in the Brain, Behavior, and Immunity - Health.

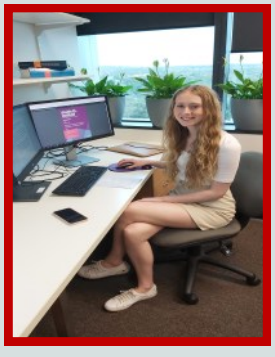
Link: https://doi.org/10.1016/j.bbih.2025.101142

Using MRI, this paper identified significant alterations in brain neurochemicals, brain signal intensity, and tissue structure not only in individuals with long COVID but also in those who considered themselves fully recovered. We also demonstrated that altered tissue structure was associated with severity measures in individuals with long COVID. This study suggests that COVID-19 may affect brain health, even after full recovery.

Dr Natalie Eaton-Fitch (pictured right) and NCNED Researchers have uncovered immune changes in Australian Gulf War Veterans suffering from Gulf War Illness. Our most recent investigation published in PLOS ONE analysed hundreds of immune-related genes and found that 33 were significantly altered in veterans with GWI. These immune changes were linked to chronic inflammation, weakened T-cell responses and interferon signalling.

This research has identified potential markers for future research and provides an additional avenue for diagnostics and therapies.

CONGRATULATIONS TO DR WEIGEL



NCNED is pleased to announce that researcher Breanna Weigel (pictured left) has been awarded a Doctor of Philosophy.

Breanna's Thesis investigated illness experiences and healthcare policy for ME/CFS and long COVID patients in Australia.

NCNED congratulates Breanna on this wonderful achievement and we are very proud of all of her hard work and dedication. Congratulations also to her supervisors, Professor Sonya Marshall-Gradisnik and Dr Natalie Eaton-Fitch for their support and guidance.

CONFERENCES ATTENDED

The **IACFS/ME 2025 Virtual Conference** invited Professor Sonya Marshall-Gradisnik (pictured left) to present on the evidence of the pathology of ME/CFS. Professor Marshall-Gradisnik presented the most recent research outputs from the Centre which highlighted their latest large-scale ion-channel research findings funded by the National Health and Medical Research Council, Australia.

Dr Natalie Eaton-Fitch (pictured right) co-hosted a workshop for the **IACFS/ME Conference** on the Evidence for the Treatment of ME/CFS The workshop focused on sharing current research insights on clinical trials assessing treatment options for people living with ME/CFS, exploring method and protocol alternatives, and future research directions using machine learning.

The **4th RID International Conference** on November 12-13, 2025 at Tweed Heads, New South Wales, Australia, brought together 36 international/national/early career researchers and clinical health professionals to impart their knowledge and experience with ME/CFS, long COVID and Gulf War Illness (GWI) research. More than 100 participants gathered together to present and listen to the latest scientific findings and how they translate into clinical practice for those sufferers of ME/CFS, long COVID and GWI. This collaborative and networking experience between all those attending further solidifies the goals of all those working towards better treatments and outcomes for those lives we strive to improve. The involvement of patients and their families enriched the meeting by allowing direct exchange of lived experience with researchers and clinicians. NCNED researchers delivered a total of twenty-two presentations (10 oral and 12 posters) at the RID Conference, with awards being presented to two of the NCNED team.

Oral Presentations:

- Professor Sonya Marshall-Gradisnik – Multi-site confirms TRPM3 Ion Channel Dysfunction in ME/CFS – A Turning Point?
- Associate Professor Leighton Barnden - Intrinsic Networks of the Brain
- Dr Kiran Thapaliya – Seeing the Invisible: Brain dysfunction in ME/CFS and Long COVID through the lens of MRI
- Dr Natalie Eaton-Fitch – Comparative epidemiology of ME/CFS and Long COVID: Insights into clinical history, symptomatology and health related quality of life
- Dr Etianne Martini Sasso – Restoration of TRPM3 Ion channel function in Long COVID Patients using Low-Dose Naltrexone
- Dr Etianne Martini Sasso – Targeting faulty ion channels in Australian Gulf War Illness veterans
- Ms Maira Inderyas - 7 TESLA Task fMRI reveals distinct Functional Connectivity disruptions in patients with long COVID and ME/CFS relative to healthy population
- Ms Jessica Dwyer - Natural Killer Cell Cytotoxicity in Australian Veterans with Gulf War Illness and potential markers in inflammation Poster and oral presentation. - **Voted Best Oral Presentation by an independent judging team**
- Mr Jamie Whitehead - Thirty Years On: The Unfolding Health Impact of Gulf War Illness in Australian Veterans

CONFERENCES CONTINUED

Poster Presentations:

- Archer B, Eaton-Fitch N, Marshall-Gradisnik S, Deep immunophenotyping and function of natural killer cells in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome and Long COVID
- Dwyer J, Eaton-Fitch N, Marshall-Gradisnik S - Natural Killer Cell Cytotoxicity in Australian Veterans with Gulf War Illness and potential markers in inflammation
- Eaton-Fitch N, Martini Sasso E, Marshall-Gradisnik S, Comparative epidemiology of ME/CFS and long COVID: insights into clinical history, symptomatology and health-related quality of life
- Huynh TH, Barnden L, Marshall-Gradisnik, Inderyas M, Thapaliya K, Machine Learning Can Distinguish ME/CFS from Healthy Controls using Brain MRI Features
- Inderyas M., Thapaliya K., Marshall-Gradisnik S., Barnden L., 7 TESLA Task fMRI reveals distinct Functional Connectivity disruptions in patients with long COVID and ME/CFS relative to healthy population, **– Voted Best Poster by an independent judging team**
- Ishrat U, Eaton-Fitch N, Thapaliya K, Marshall-Gradisnik S, In silico and Machine Learning Methodologies Used for Determining the nsSNPs and iSNVs in Exonic and Intronic Genomic Regions Associated with Ion Channels in ME/CFS and Long COVID
- Magawa C, Eaton-Fitch N, Muraki K, Marshall-Gradisnik S, Altered TRPM3-dependent cytosolic and calcium influx in the mitochondria in natural killer cells of post-COVID-19 condition patients
- Sasso E-M, Eaton-Fitch N, Smith P, Muraki K, Marshall-Gradisnik S, Restoration of TRPM3 ion channel function in Long COVID Patients using Low-Dose Naltrexone
- Sasso E-M, Eaton-Fitch N, Muraki K, Marshall-Gradisnik S, Targeting faulty ion channels in Australian Gulf War Illness veterans
- Singh T, Barnden L, Marshall-Gradisnik S, Thapaliya K, Altered Brain Tissue Microstructure in ME/CFS Assessed Using Diffusion Tensor Imaging
- Song T, Martini Sasso E, Eaton-Fitch N, Marshall-Gradisnik, TRP ion channels: Key indicators for understanding the ME/CFS pathomechanism?
- Whitehead J, Eaton-Fitch N, Sasso E-M, Marshall-Gradisnik S, Thirty Years On: The Unfolding Health Impact of Gulf War Illness in Australian Veterans

BEST WISHES FROM THE NCNED TEAM FOR 2026!

Griffith University's National Centre for Neuroimmunology and Emerging Diseases' research team express their appreciation to all our supporters.