

# 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 Professors Sonya Marshall-Gradisnik and Donald Staines, the team has a focus on Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS).

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 but also other immune disorders.



## NCNED Visit to Henty

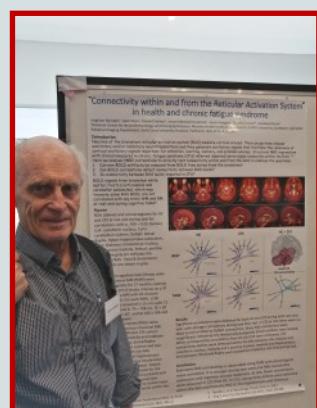
On October 25th Professor Sonya Marshall Gradisnik and Dr Helene Cabanas visited the community of Henty to provide a presentation on the Centre's latest research findings. This is the third invitation extended to the NCNED team and it is always a pleasure to meet with the Henty community and share our progress.

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## Human Brain Mapping Conference



In October, our MRI scientists, Dr Leighton Barnden and Kiran Thapaliya, attended the Australian Chapter of the Organisation of Human Brain Mapping Conference hosted by the University of Newcastle at the Hunter Medical Research Institute.

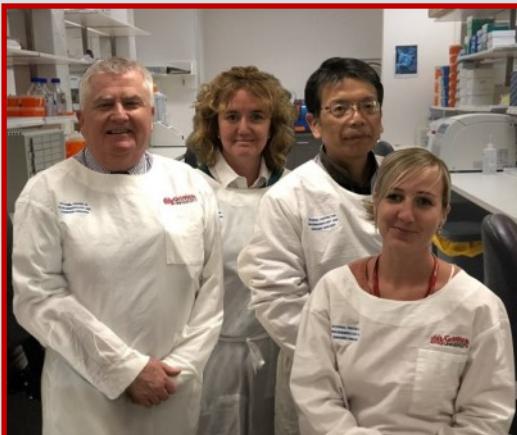
Our recently published work on impaired connectivity within the brainstem in ME/CFS was presented. Collaborations with experts in new techniques that are pertinent to our future studies of ME/CFS were forged and are actively being pursued.



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## Publications



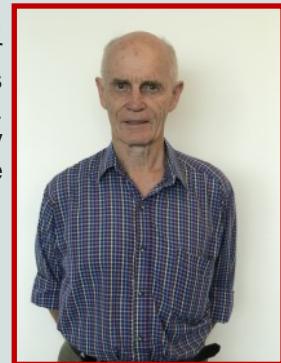
In this new pivotal research publication, Dr Cabanas and NCNED researchers report Naltrexone (NTX) restored TRPM3 activity in Natural Killer (NK) cells from ME/CFS patients. NCNED researchers use NK cells as a model for assessing TRPM3 and other TRP function and which reflects physiological activity in all body tissues expressing these ion channels. This ground breaking discovery used the advanced and gold-standard electrophysiology technique known as patch clamp in immune cells to confirm dysfunction of TRPM3 to be associated with ME/CFS pathology. Importantly, NCNED researchers used Naltrexone, a known opioid antagonist used by ME/CFS patients, to restore significantly the impaired TRPM3 cells ion channel function in immune cells from ME/CFS patients.

This world first discovery suggests new potential pharmaco-therapeutic interventions in ME/CFS.

<https://www.frontiersin.org/articles/10.3389/fimmu.2019.02545/full>

Dr Leighton Barnden and NCNED Researchers have just published a novel significant paper. The research paper published in Neuroimage: Clinical reported world first findings for brainstem connectivity is impaired in ME/CFS patients. Dr Barnden and NCNED Researchers found brainstem reticular activation system (RAS) connectivity was significantly weaker. Importantly these deficits can explain autonomic changes and diminish cortical oscillatory coherence which can impair attention, memory, cognitive function, sleep quality and muscle tone, all symptoms of ME/CFS.

[https://www.sciencedirect.com/science/article/pii/S2213158219303924?fbclid=IwAR1v3g04TDiDoFYk-BY8EZ2P-TawqNHuz\\_UmKQZyWUJVx69HzMldCvV-GA0](https://www.sciencedirect.com/science/article/pii/S2213158219303924?fbclid=IwAR1v3g04TDiDoFYk-BY8EZ2P-TawqNHuz_UmKQZyWUJVx69HzMldCvV-GA0)



## Would you like to be involved in our research?

NCNED would like to hear from ME/CFS patients who are currently taking Low Dose Naltrexone (LDN). If you are a ME/CFS patient taking LDN and would consider participating in a research program please contact NCNED.

New ME/CFS Pharmacological In Vitro Research Studies Commencing—We are recruiting for upcoming ME/CFS studies to continue NCNED world class research in the area of calcium receptors, signalling and pharmaceutical intervention. If anyone is interested in participating in these studies, please contact us by email at ncned@griffith.edu.au or call (07) 5678 9283 for further information. NCNED would like to hear from ME/CFS patients who are not currently taking medication.

NCNED has now commenced further ME/CFS research initiatives in Victoria, in collaboration with The Royal Melbourne Hospital, Australian Rickettsial Reference Laboratory, World Health Organisation Reference Laboratory, Geelong to further examine TRP ion channel function in ME/CFS patients. If anyone is interested in participating in these studies, please contact us by email at ncned@griffith.edu.au or call (07) 5678 9283 for further information.

## Appreciation and Acknowledgement of Granting Organisations, Agencies, Benefactors and Fundraisers

Thank you to the Stafford Fox Medical Research Foundation, McCusker Charitable Foundation, Mr Douglas Stutt, the Mason Foundation, Mr and Mrs Ian and Talei Stewart, the Alison Hunter Memorial Foundation, the Blake Beckett Foundation, Mr Adrian Flack, the Buxton Foundation, the Henty Community, Change for ME Charity, QLD ME/CFS/FM Support Association QLD Inc., the ACT ME/CFS Society and ME/CFS and Lyme Association of WA Inc.

