National Centre for Neuroimmunology and Emerging Diseases

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Postal Address:

National Centre for Neuroimmunology and Emerging Diseases
Griffith University
Gold Coast
G40, Mailbox 68
SOUTHPORT QLD 4222

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NCNED contact:

(07) 5678 9283 or
ncned@griffith.edu.au

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 RESEARCH EXPANDS TO MELBOURNE, VICTORIA

NCNED PhD students, Mrs Natalie Eaton-Fitch and Mr Stanley du Preez, are currently in Geelong and Melbourne to expand our research to Victoria for the coming weeks.

Natalie and Stanley have been busy collecting samples from ME/CFS patients and healthy volunteers to continue with NCNED's research into ion channels. Specifically, the team's focus will be on the investigation of TRP channels, calcium signaling and pharmaceutical interventions on natural killer (NK) cells isolated from blood. Flow cytometry will be used as the gold standard technique for measuring NK cell cytotoxicity as well as immunofluorescence to determine interactions between TRP channels and calcium signaling molecule.

NCNED would like to thank Royal Melbourne Hospital Pathology for the collection of participant samples and the team at Australian Rickettsial Reference Laboratory for welcoming NCNED into their laboratories.

NCNED is thankful to the participants who continue to support our research. We also wish to thank the Granting Organisations, Agencies, benefactors and fundraisers without whom this research would not be possible.

RESEARCH OPPORTUNITIES

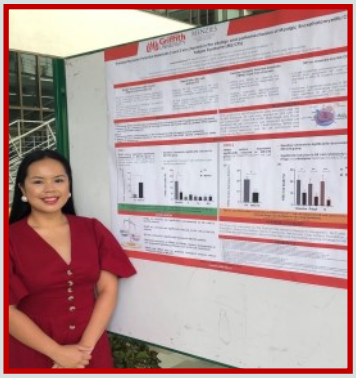
NCNED would like to hear from ME/CFS patients who are currently taking Low Dose Naltrexone (LDN). If you are a ME/CFS patient taking LDN and would consider participating in a research program please contact NCNED.

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, signaling 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.

Griffith UNIVERSITY
Queensland, Australia

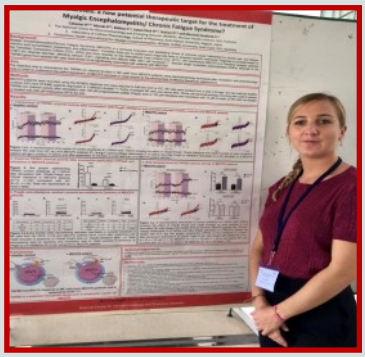
MENZIES
HEALTH INSTITUTE
QUEENSLAND

EMBO SYMPOSIUM ON CALCIUM SIGNALING, INDIA, JANUARY 2020



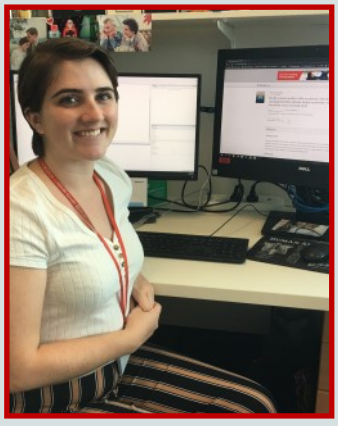
Ms Cassandra Balinas and Dr Helene Cabanas attended the prestigious EMBO Symposium held in Bangalore, India, 26th to 29th of January. This Conference focused on calcium signaling and molecular mechanisms in health and disease.

Ms Balinas presented NCNED research data that identified differential surface expression of TRPM2 and TRPM3 ion channels on NK cells. She also presented novel data of impaired surface expression from TRPM2 and TRPM3 that is implicated in the dysregulated NK cell cytotoxicity in ME/CFS patients. NCNED world leading ion channels and calcium research in ME/CFS highlights numerous TRPs are involved in the pathology of ME/CFS. NCNED continue to expand TRP and calcium investigations in ME/CFS.

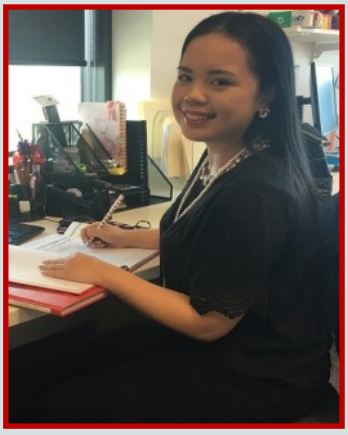


Dr Cabanas presented a research poster that identified for the first time the calcium-permeable nonselective cation channel, TRPM3, as a novel and attractive therapeutic target for the treatment of ME/CFS. She reported impaired TRPM3 ion channel function in immune cells from three different cohorts of ME/CFS patients using the gold standard of patch clamp technique. She also presented novel data describing restoration of TRPM3 ion channel function after in vitro treatment with Naltrexone, suggesting the potential use of this drug as a therapeutic intervention for ME/CFS.

PUBLICATIONS



The NCNED team are pleased to announce the publication of the paper, “Health-related quality of life in patients with Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: An Australian cross-sectional study” - Natalie Eaton-Fitch, Samantha Johnston, Pawel Zalewski, Don Staines and Sonya Marshall-Gradisnik. This research represents the largest study to assess quality of life in Australians diagnosed with ME/CFS. NCNED report for the first time the significant impact this disease has on quality of life. Our researchers analysed 480 survey responses submitted by ME/CFS patients. Mrs Eaton-Fitch reports significantly low quality of life scores due to cognitive symptoms, sleep and sensory disturbances, and autonomic and immune dysfunction. This publication provides evidence of the disabling effects of ME/CFS and the impaired quality of life which hopes to motivate the Australian public health community to renew public health policies and increase focus on patient care.



Ms Cassandra Balinas and NCNED researchers have published a novel significant paper reporting another TRP channel involved in ME/CFS pathology. The research paper published in the Journal of Translational Medicine reported **world first findings that TRPM2 is significantly increased in expression of NK cells in ME/CFS patients compared to healthy participants.** Ms Balinas also found the additional protein, CD38, that acts together with TRPM2 to cause NK lysis was not changed in expression in ME/CFS patients compared to healthy participants. Hence TRPM2 expression in NK cells from ME/CFS patients is increased to try and potentially compensate for less calcium entering into NK cells to perform NK lysis. NCNED world leading ion channels and calcium research in ME/CFS highlights numerous TRPs are involved in the pathology of ME/CFS. NCNED continue to expand TRP and calcium investigations in ME/CFS.

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