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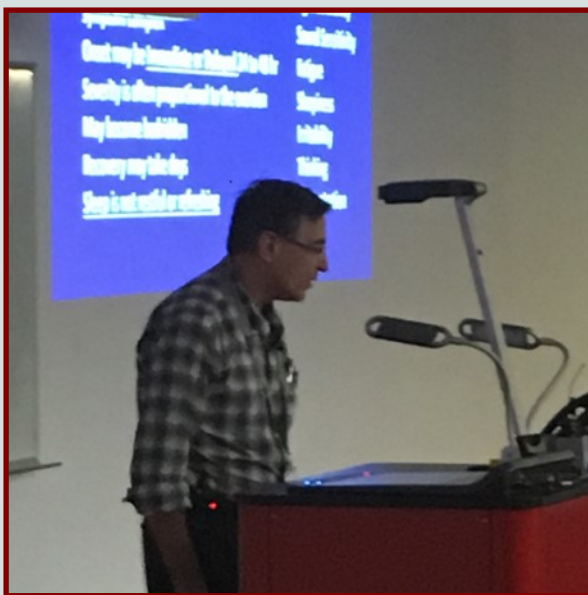
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Our Mission

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 Chronic Fatigue Syndrome/Myalgic Encephalomyelitis (CFS/ME).

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 CFS/ME but also other immune disorders.

Professor James Baraniuk Seminar



Professor James Baraniuk from the Department of Medicine, Georgetown University, Washington DC gave an excellent seminar on the 8th of March, 2019. This seminar titled “*Your Brain on Exercise Versus Chronic Fatigue Syndrome*” was extremely well attended with over 60 audience members. Professor Baraniuk’s presentation was very informative and his generosity with his time after the seminar is to be commended. The slides and oral presentation can be viewed on our website under “Seminar Presentations” <https://www.griffith.edu.au/menzies-health-institute-queensland/about-menzieshiq/Infectious-Diseases-and-Immunology/neuroimmunology-and-emerging-diseases/research> or by following this link

<https://echo360.org.au/media/38d786f8-2cd7-4725-9b1f-8026462ba8a1/public>

Grant Success

S. Marshall-Gradisnik and D. Staines (Chief Investigators). The McCusker Charitable Foundation has once again provided generous research funding of \$160k after their initial contribution in 2018 of \$100k. These funds will assist greatly in expanding and exploring suitable pharmacotherapeutic treatment investigations for the benefit of CFS/ME patients.

Publications

NCNED are extremely pleased to announce the publication of two submissions by Dr. Helene Cabanas and Ms. Cassandra Balinas as follows:-



Cabanas H, Muraki K, Balinas C, Eaton-Fitch, N, Staines D and Marshall-Gradisnik S. Validation of impaired transient receptor Potential Melastatin 3 ion channel activity in Natural Killer cells from Chronic Fatigue Syndrome/Myalgic Encephalomyelitis patients. *Molecular Medicine*. Accepted April 2019.

Conclusion

Impaired TRPM3 activity was validated in NK cells isolated from CFS/ME patients using different pharmacological tools and whole-cell patch-clamp technique as the gold standard for ion channel research. This investigation further helps to establish TRPM3 channels as a prognostic marker and/or a potential therapeutic target for CFS/ME.



Balinas C, Cabanas H, Staines D and Marshall-Gradisnik S. Identification and characterisation of Transient receptor potential melastatin 2 and CD38 channels on Natural Killer cells using the novel application of flow cytometry. *BMC Immunology*. Accepted April 2019.

Conclusion

For the first time, we describe an in vitro methodology to characterise TRPM2 and CD38 surface expression on NK cells in healthy participants. Finally, using an antibody that has not been previously applied in flow cytometry, we determine an antibody concentration and incubation time that is robust, rapid and sensitive for the application of flow cytometry.

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

Profile—Stanley Du Preez

Stanley du Preez is a current PhD candidate with NCNED and medical student at Griffith University Gold Coast. He is continuing exploration of calcium channel dysfunction in natural killer cells (NKCs) of ME/CFS patients, focusing on a variant channel that also allows magnesium into cells. This research will broaden our understanding of dysfunctional calcium and magnesium signalling in ME/CFS, contribute to the development of diagnostic markers of ME/CFS, and identify potential treatment targets.

Stanley completed a Bachelor of Biomedical Science with Honours receiving Class 1 recognition, Dux of his cohort, and the University Medal for scholarly excellence. The current focus of his PhD involves imaging NKCs and the channels that show dysfunction in ME/CFS and performing live imaging of cells isolated from ME/CFS patients to characterise anticipated differences in calcium flux with non-fatigued controls.

Stanley wishes to continue research in ME/CFS and immunology during his medical career to gain a better knowledge of ME/CFS, improve patient outcomes, educate fellow clinicians and empower those living with the illness.

