

## Seminar Series - 2017

When: Monday 5<sup>th</sup> June @ 12:00 pm

Where: Rand Theatre, Level 8, Medical Building

# *“Harnessing Unnatural Selection: Directed Evolution of Thermostabilised GPCRs for Structural Biology and Drug Discovery”*



**Dr Daniel Scott**

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Mental Health, The University of  
Melbourne*

Daniel's laboratory is focused on membrane protein engineering, structure and function. The foundation of the lab is the development of new, generic protein engineering methods that can be applied to facilitate the application of structural biology and structure based drug design to traditionally challenging membrane protein targets such as G protein-coupled receptors (GPCRs). Daniel completed his PhD at The University of Melbourne in 2007, before working as a postdoctoral researcher in the laboratory of Prof. Andreas Plückthun in Zurich, Switzerland. While in Zurich he invented a novel method, called CHESSE, for the directed evolution of detergent-resistant membrane proteins. GPCRs stabilised with this method can be produced recombinantly in bacteria, purified in detergents and experimentally probed as if they were highly stable soluble proteins. Such stabilised GPCRs can be applied to X-ray crystallography and NMR for structural studies, but can also be used to probe the molecular determinants of ligand binding, ligand-receptor selectivity and for drug discovery. The CHESSE technology was spun out into a Swiss biotechnology company, called G7 therapeutics, co-founded by Daniel in 2013. In 2016 G7 therapeutics was acquired by the UK pharmaceutical company, Heptares Therapeutics.