Australian National University

Cell, network and mouse modelling of genetic epilepsies for mechanism, diagnosis and therapy

Thursday 3 October 2013 1pm

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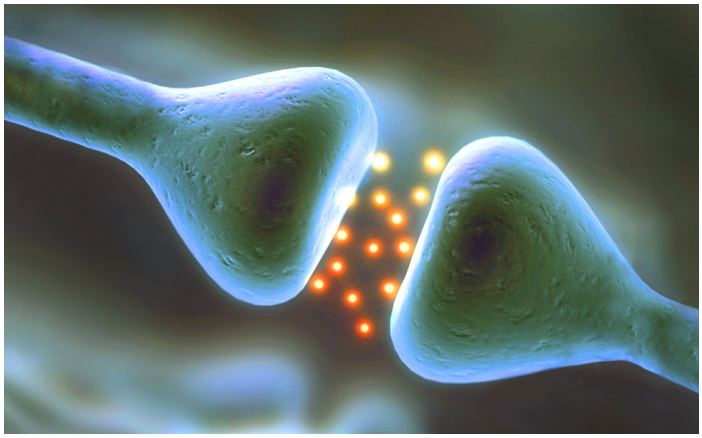
Slatyer seminar room R.N. Robertson Building (Bldg. 46), Linnaeus Way, ANU



Current estimates suggest that 70% of human epilepsy is genetic in origin. Earlier work in familial epilepsy suggested an ion channel basis although more recent studies in *de novo* epilepsy suggest a broader gene class involvement bringing new challenges in modelling and understanding mechanisms and identifying therapeutic opportunities. While large scale efforts such as Epi4K and others will almost certainly reveal details about how our genes confer risk in epilepsy, the current challenge is how to translate these findings into improved outcomes for patients. In this talk I will illustrate our efforts towards understanding how pathologies emerge in genetic epilepsy and the impact this could have on future development of diagnostics and therapeutics. Finally, I will close by detailing a new approach we are undertaking to develop "epilepsy in a dish" models that exploit recent advances in stem cell technology, gene editing and multi-electrode array recording.

Presented by

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