



MONASH University
e-Research Centre

e-XPO Seminar: 20 August

Multiscale modelling and simulation of drug-induced effects on the heart

Presented by Dr Blanca Rodriguez



Time: 3 - 4pm

**Venue: G19, Bldg 75,
Clayton Campus**

Abstract:

The causes of cardiac arrhythmias are numerous and include disease, mutations and also drug-induced abnormalities in ionic properties. Of particular concern for regulatory agencies, pharmaceutical industry and society is the fact that certain drugs, in particular those not designed to affect the heart, can exhibit cardio-toxicity (i.e. unwanted side effects), which can put patients with otherwise healthy hearts at risk of developing lethal arrhythmias. In this presentation, we will describe the state-of-the-art in multiscale modelling and simulation of ventricular electrophysiology, and we will illustrate their use in the investigation of drug-induced abnormalities in heart rhythm mechanisms. The ultimate goal of the research described here is to contribute to the improvement of the diagnosis and treatment of cardiac arrhythmias to reduce the burden they impose to society.

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