UEL Research & Knowledge Exchange Conference 2013

Call for Abstracts

Name & Title of Presenter:	Dr. Stefano Casalotti
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Title of Abstract:	Ethanol-induced changes in G-proteins gene expression
Key Theme/ Key words:	Addiction, substance use misuse, drosophila, qPCR

Abstract (No more than 400 words):

The cellular and molecular mechanism underlying addictive behaviours in humans is still not fully understood. Several studies have indicated that the expression of certain genes in the reward pathways of the central nervous system are altered following repeated exposure to addictive drugs. Our studies are focussed on ethanol and on its effect on the expression of G proteins, which are associated with several different neurotransmitter receptors. In our study we use the fruit fly *Drosophila Melanogaster* as a model organism. This insect displays classical tolerance behaviour when exposed to ethanol and contains the same receptors systems found in mammalian reward pathways. Our findings indicate that the expression of some of the G protein subtypes is altered following acute and chronic ethanol exposure. We have also observed that there is considerable variation among the wild type population in the response to alcohol and we are carrying out parallel studies to isolate strains of flies with different response behaviour. The work is aimed at better understanding the role of G proteins in the signalling response to ethanol in the fly. The information obtained should also further elucidate addiction mechanism in mammalian systems. This work is part of the internal collaboration of UEL's Substance Use and Misuse (SUM) network..