PROFESSOR DECLAN MCLAUGHLIN

Prof McLoughlin took up the new post of Research Professor of Psychiatry on July 1, 2007. Prior to this I was a Senior Lecturer in the MRC Centre for Neurodegeneration Research at the Institute of Psychiatry, King's College London.

I have been investigating the neuronal signalling function of the Alzheimer's disease amyloid precursor protein (APP) and was among the first to identify the FE65 and X11 adaptor proteins as APPbinding partners. To study their functions in vivo, we have made X11 transgenic mice and have demonstrated that the X11s regulate APP processing and reduce cerebral Ab production and deposition. The neuronal X11 proteins are therefore novel therapeutic targets for Alzheimer's disease. I am now leading a research group studying behavioural and electrophysiological effects of X11- mediated reduction in cerebral Ab in an Alzheimer's animal model. On the clinical side, I have also been leading randomised controlled trials of therapeutic neuromodulation techniques (e.g. transcranial magnetic stimulation, electroconvulsive therapy) for neuropsychiatric disorders such as depression and schizophrenia. In St Patrick's Hospital and TCD, we are about to start a 5-year research programme called the EFFECT-Dep Study (enhancing the effectiveness of electroconvulsive therapy in severe depression and understanding its molecular mechanism of action). This programme is supported by a HRB Translational Research Award and its purpose is to improve ECT practice and use it to interrogate the molecular neurobiology of depression. We will carry out a definitive randomised controlled trial comparing bilateral and high-dose unilateral ECT, recruiting 140 patients with severe depression. We will also use an animal model of ECT treatment to characterise changes in global protein expression (i.e. the proteome) in both brain and blood plasma and also carry out similar studies using plasma from depressed patients recruited into the clinical trial. The results of these studies will improve clinical ECT and also help us understand better the molecular mechanism of action of ECT, as well as antidepressant drugs, and lead to identification of candidate peripheral biomarkers for depression, treatment response and depression relapse