**Investigation of the effects of Parkinson’s Disease on cognition, mood and brain structure/function.**

*DPhil project – Supervisor: Dr Clare Mackay with Michele Hu (Nuffield Dept of Clinical Neurosciences)*

Parkinson’s Disease (PD) is generally thought of as a motor disorder, but effects on cognition and mood are very common. These ‘non-motor symptoms’ are not improved by PD medication and often cause more distress to patients than the typical motor symptoms. The Oxford Parkinson’s Disease Centre ([www.opdc.ox.ac.uk](http://www.opdc.ox.ac.uk)) was established in 2010 and comprises neuroscientists who investigate many aspects of this disease (e.g. cellular mechanisms, animal models, genetics, imaging, proteomics), and clinical scientists who are collecting a large prospective cohort of patients and controls. Patients were recruited into the study early in their disease course, and will be followed up every 18 months. As the cohort matures it will become more important to focus on the effect of PD on cognition and mood. Examples of the sorts of studies that could form the basis of a DPhil are:

1. Develop a sensitive PD-optimised test battery to assess cognitive decline, potentially including web/smartphone/tablet based tests that patients can carry out at home.
2. Investigate predisposing factors and markers that predict cognitive decline within the OPDC cohort (including measures of brain structure and function)
3. Explore the cognitive/mood/brain structure/function profile of individuals at high-risk of developing PD.

We would be interested in hearing from strong candidates who would like to pursue one of these projects, or who would like to develop their own ideas within this general field. Projects will involve neuroimaging and/or test development so candidates should have a good level of technical competency.

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