

## Translational Neuroimaging for Older Adults

Our group uses neuroimaging technologies to explore brain ageing, with a particular emphasis on understanding risk and resilience to neurodegeneration. We collaborate widely with clinical colleagues, cognitive neuroscientists and methodologists to investigate underlying mechanisms and identify potential biomarkers for experimental medicine, clinical trials and potentially for the clinic. Example projects in our group include:

- As part of the Oxford Parkinson's Disease Centre we have access to one of the largest and best phenotyped cohorts of prodromal and early PD (collaboration with Prof Michele Hu, NDCN). A subset of the cohort have undergone MRI scanning and we know that the brain changes in early PD are subtle. As the cohort mature we will be exploring the potential of imaging phenotypes to predict cognitive, mood and motor decline.
- As part of the NIHR Oxford Health Biomedical Research Centre we are developing an integrated research and clinical assessment clinic called the 'Brain Health Centre'. There will be opportunities for projects related to a) developing and refining cognitive and imaging assessments, b) data science projects related to predicting diagnosis and outcomes, and c) patient-focussed applied research on improving services.
- Population/cohort based research projects exploring factors that influence risk and resilience for cognitive decline in later life. We have access to the Whitehall II imaging sub-study (collaboration with Prof Klaus Ebmeier), the UK Biobank and the MRC Dementia's Platform UK, which provide rich datasets for exploring a range of factors.

Our group is part of the Wellcome Centre for Integrative Neuroimaging ([WIN](#)), the NIHR Oxford Health Biomedical Research Centre ([BRC](#)) and the Oxford Centre for Parkinson's Disease ([OPDC](#)). We are keen advocates of open science principles and are working towards openly sharing all of our data, code and protocols.

Please get in touch if you are interested in a project in this area <clare.mackay@ohba.ox.ac.uk>.