Inflammation and Alzheimer's disease: PhD Scholar at the University of Oxford

We are pleased to invite applications for a doctoral degree in the Department of Psychiatry, in association with St Cross College of the University of Oxford. The 3-year doctoral degree will start in October 2025.

Neuroinflammatory response, where the brain's immune system responds to infection or injury, is a central causal component of Alzheimer's Disease (AD). Brain immune response is associated with the accumulation of both tau and amyloid proteins and is implicated in neuropathogenesis and multiple chronic inflammatory pathways. The successful candidate will be analysing how these pathways alter in different dementia patient datasets aiding in understanding how inflammatory response differences reflect disease and progression subtypes with the intention of identifying potential biomarkers and therapeutic targets. It will involve the study of large patient cohorts utilising phenotypes of dementia, proteomics and multi-modal datasets. It will use advanced analytical models to generate evidence about new and existing inflammatory pathways and how these will impact the progression of dementia.

The PhD (DPhil) programme will be supervised by Dr Laura Winchester and Associate Professor Alejo Nevado-Holgado and their teams in the Department of Psychiatry, with support of allied Oxford institutions specializing in the analysis of the complex data and cellular models (Big Data and Kavli Institutes). The DPhil will provide the student with multidisciplinary skills including specialized training in bioinformatics, genetic epidemiology and machine learning.

The scholarship will fund course fees up to the value of home fees*, a tax-free stipend of no less than £20,780 per annum), plus additional support for research expenses, conference attendance, and consumables.

*Students with overseas fee status should be advised that they would need to fund the remainder of their fees from alternative sources

Applicants should have, or expect to gain, at least an upper second-class honours degree in a field relevant to medical science. Interests should include dementia research, epidemiological data analyses and experimental medicine studies. We are looking for highly motivated candidates with a strong academic background in computer science, AI/ML, bioinformatics, or related fields such as mathematics and statistics. Informal enquiries are encouraged (laura.winchester@psych.ox.ac.uk).

You will need to apply for this studentship via the main University online graduate application form, and pay an application fee of £20. The application form, all supporting materials required for the programme (including references) and payment must be submitted by the appropriate studentship deadline. To access the application form and application guide please visit our website at www.graduate.ox.ac.uk/apply.

Deadline for submission of applications: 12.00 midday UK time on Friday 25th July 2025

Interview date: w/c 28th July 2025

Studentship Code: 25PSYCH03WEB