

# PhD program in Neuroscience



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MBBS DMedSci DSc**

Head, Peter Duncan Neuroscience Unit

## Objective

To discover and translate knowledge which underpins the pathogenesis of multiple neurological diseases and explore the pathways governing repair of neural tissue. The unit focuses on Multiple Sclerosis (MS), HIV and Alzheimer's disease research.

## Projects

- Emerging role of the tryptophan metabolic pathway in MS, HIV and Alzheimer's – Pathophysiological characterization of novel biomarkers for diagnosis and monitoring
- Kynurenine pathway genetic polymorphisms in MS severity
- Effects of kynurenine pathway metabolites and inhibitors on mouse and human brain neural stem cells in the latter diseases
- Effect of MS drugs on modulation of the kynurenine pathway and remyelination in rodent models

## An Interdisciplinary environment

- Behavioral Neuroscience
- Preclinical Neuroscience
- Stem cell Research
- Genetics and Neuroscience

## Access to Cutting-edge AMR facilities

- Multimodal preclinical brain imaging
- Molecular and cellular imaging
- Animal facilities
- Real-time PCR
- Metabolite analysis
- Histopathology
- Stem cell culture lab
- Incucyte Automated Live cell imager
- Thunder Live Cell Imaging Microscope with CellASIC microfluidic perfusion device
- Flow cytometry
- Others in the Victor Chang/Garvan precinct

## Scholarships

- Access to UNSW prestigious scholarships
- AMR Top-up scholarships available

## How to Apply

For details in the application process, prospective applicants should visit:

<https://research.unsw.edu.au/higher-degree-research-programs>

## Project Information requests:

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