POSTDOCTORAL IMAGING RESEARCH FELLOW

DEPARTMENT/UNIT	Department of Neuroscience, School of Translational Medicine
FACULTY/DIVISION	Faculty of Medicine, Nursing and Health Sciences
CLASSIFICATION	Level A
DESIGNATED CAMPUS OR LOCATION	The Alfred Centre

ORGANISATIONAL CONTEXT

At Monash, work feels different. There's a sense of belonging, from contributing to something groundbreaking – a place where great things happen. You know you're part of something special and purposeful because, like Monash, your ambitions drive you to make change.

We have a clear purpose to deliver ground-breaking intensive research; a world-class education; a global ecosystem of enterprise – and we activate these to address some of the challenges of the age, Climate Change, Thriving Communities and Geopolitical Security.

We welcome and value difference and diversity. When you come to work, you can be yourself, be a change-maker and develop your career in exciting ways with curious, energetic, inspiring and committed people and teams driven to make an impact – just like you.

Together with our commitment to academic freedom, you will have access to quality research facilities, infrastructure, world class teaching spaces, and international collaboration opportunities.

We champion an inclusive workplace culture for our staff regardless of ethnicity or cultural background. We have also worked to improve gender equality for more than 30 years. Join the pursuit of our purpose to build a better future for ourselves and our communities – #ChangeIt with us.

The Faculty of **Medicine, Nursing and Health Sciences** is the largest faculty at Monash University, a global university with campuses across Victoria and international locations in Indonesia, Malaysia, China, India and Italy.

Our Faculty offers the most comprehensive suite of professional health training in Victoria, consistently ranking in the top 40 universities worldwide for clinical, pre-clinical and health sciences.

We want to improve the human condition. That is our vision - it has no expiration date. By educating the current and future healthcare workforce, and undertaking medical research, both discovery and clinical, our students, staff and alumni all work to directly improve people's quality of life, reduce health inequality and promote greater health and social outcomes.

We've made a major impact in the world of medical research and are globally recognised for our quality education of over 63,000 doctors, nurses, and allied health professionals and health researchers. The future health of our communities is underpinned by the sustained excellence of our education and research capabilities.

We are ambitious and committed to maintaining our position as a leading international medical research and teaching university. We're recognised for the quality of our graduates, the scale and depth of our research, our commitment to translational research, and as a thriving biotechnology hub. To learn more about the Faculty, please visit www.monash.edu/medicine.

Our Faculty includes four Sub-Faculties: Health Sciences, Clinical and Molecular Medicine, Biomedical Medicines, and Translational Medicine and Public Health.

The Monash University **School of Translational Medicine (STM)** is the FMNS's leading clinical school for biomedical research and education, offering undergraduate and postgraduate study programs. STM is located at the Alfred Research Alliance (ARA), Peninsula Health, Cabrini and Epworth Campuses. STM, along with the School of Public Health and Preventative Medicine (SPHPM) form the Sub-Faculty of Translational Medicine and Public Health led by Foundation Dean, Professor Stephen Jane.

Translational and clinical research in STM covers a great breadth of subject areas, with 16 different departments and centres, including The Departments of Medicine, Immunology & Pathology, Diabetes, Infectious Diseases, Respiratory Allergy and Clinical Immunology, Gastroenterology, Neurosciences, Psychiatry, Medical Oncology, Surgery, Anaesthesiology & Perioperative Medicine (APOM), Medical Education, Medicine Peninsula, Melbourne Sexual Health Clinic, The National Trauma Institute (NTRI) and Clinical Haematology / the Australian Centre for Blood Diseases (ACBD). STM encourages multidisciplinary research across discipline areas and attracts elite students, researchers and teachers to its well-equipped research laboratories and facilities. The school partners with industry to put research into practice and contribute to the treatment and cure of several specific diseases and conditions.

Further details can be found at: https://www.monash.edu/medicine/translational

The **Department of Neuroscience**, is one of the largest academic departments in the School of Translational Medicine (Faculty of Medicine, Nursing and Health Sciences, Monash University) and also one of the first university academic departments in Australia dedicated to developing and providing solutions for patients with neurological conditions. We partner closely with the Alfred Health healthcare service, in particular the Alfred Brain program and are a member of the Alfred Research Alliance, a research hub located at The Alfred Hospital.

Our translational research covers a broad range of neurological and related disciplines, including epilepsy, multiple sclerosis and other neuroinflammatory conditions, headache and pain, neuroimaging, neuromuscular disorders, neurodegenerative diseases, brain tumours, and acquired brain injuries. One key focus of our research is in early phase clinical trials, of which we have access to a dedicated unit embedded with the Neurology ward at The Alfred Hospital. We also have high quality clinical registries and bio-databanks which collect clinical data and tissue samples from patients within the Alfred clinical services to use for our research to provide the best treatment, quality care and outcomes for people living with neurological conditions.

Monash and the Faculty of Medicine, Nursing and Health Sciences values staff diversity and champions inclusive practices. We are committed to equitable decision making and apply the principles of achievement relative to opportunity in our selection processes.

POSITION PURPOSE

A Level A research-only academic is expected to contribute towards the research effort of the University and to develop their research expertise through the pursuit of defined projects relevant to the particular field of research.

The purpose of the position is to improve our understanding of the structural and functional brain changes involved in stroke, heart disease, and dementia by performing analyses on a range of clinical structural and functional magnetic resonance imaging (MRI) data sets. You will also have access to and imaging roles in datasets including completed cohort studies (3T datasets from Cognition and Neocortical Volume After Stroke (CANVAS) study; Diabetes and Dementia D2 Study; 7T TRAINSMART study, a prospective 7T data set including innovative vascular and perfusion imaging on the effects of exercise interventions on the brain).

Access to other high-quality cohort and intervention study data is also available, including deeply phenotyped people with diabetes, sleep studies on stroke survivors and people with dementia syndromes, and clinical MRI scans on people with a range of dementia syndromes participating in the NAVAIDD study.

You will forge relationships with key researchers at Monash, the Florey, and collaborating institutions (e.g., Austin Health, University of Melbourne, Alfred Health, Box Hill Hospital at Eastern Health, and Royal Melbourne Hospital), and other researchers both nationally and internationally, to promote the sharing of ideas and data sets, and the completion of high-quality manuscripts and grant applications. You will be able to form collaborative projects with Professor Meng Law's iBRAIN (Bioinformatics Research in Artificial Intelligence and Neuroimaging) Laboratory at the School of Translational Medicine and Professor Leigh Johnston's Melbourne Brain Centre Imaging Unit, University of Melbourne.

Our group is already participating in large international collaborations, including the ENIGMA Stroke Recovery project, the International Stroke Genetics Consortium, and STROKOG.

Reporting Line: The position reports to Professor and Lead Cognitive Health Initiative

Supervisory Responsibilities: Potential to supervise Honours, Masters, and PhD students, research interns, and research assistants under guidance

Financial Delegation: Not applicable

Budgetary Responsibilities: Not applicable

KEY RESPONSIBILITIES

Specific duties required of a Level A research-only academic may include:

1. The conduct of research under limited supervision either as a member of a team or, where appropriate, independently and the production or contribution to the production of conference and seminar papers and publications from that research

2. Involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise

3. Limited administrative functions primarily connected with the area of research of the academic

4. Development of a limited amount of research-related material for teaching or other purposes with appropriate guidance from other staff

5. Occasional contributions to teaching in relation to their research project(s)

6. Experimental design and operation of advanced laboratory and technical equipment or conduct of advanced research procedures

7. Attendance at meetings associated with research or the work of the organisational unit to which the research is connected and/or at departmental, school and/or faculty meetings and/or membership of a limited number of committees

8. Engage with and forge collaborations with key staff at Monash and other institutions involved in other disciplines and realms of research (e.g. imaging development, stroke imaging, dementia researchers) and collaborating institutions as well as with key researchers leading national and international collaborations.

9. Perform analysis on diverse clinical and functional imaging data sets from prospective studies of normal ageing, stroke survivors, people with Alzheimer's and other dementias, diabetes, and heart disease, with the following work breakdown:

    a. 80% will be application-based

    b. 20% will be methods-based

10. Responsible for supporting the maintenance of the processing and analysis pipeline of functional MRI data for all imaging datasets

11. Assisting with data entry, coding, and ongoing maintenance of the study databases (e.g. Microsoft Excel, REDCap)

12. Advice within the field of the staff member's research to postgraduate students

13. Other duties as directed from time to time

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:

   - A doctoral qualification in the relevant discipline area or equivalent qualifications or research experience, i.e. neuroscience, brain imaging, neuropsychology/psychology, or similar

Knowledge and Skills

2. Demonstrated analytical and manuscript preparation skills; including a track record of refereed research publications

3. Ability to solve complex problems by using discretion, innovation and the exercise diagnostic skills and/or expertise

4. Well-developed planning and organisational skills, with the ability to prioritise multiple tasks and set and meet deadlines

5. Excellent written communication and verbal communication skills with proven ability to produce clear, succinct reports and documents

6. A demonstrated awareness of the principles of confidentiality, privacy and information handling

7. A demonstrated capacity to work in a collegiate manner with other staff in the workplace

8. Demonstrated computer literacy and proficiency in the production of high level work using software such as Microsoft Office applications and experience with a range of neuroimaging analytical suites such as FSL, FreeSurfer, MRtrix, SPM, and AFNI, with the capability and willingness to learn new packages as appropriate

9. Experience with structural and functional 3T MRI analysis, with particular emphasis on connectivity analyses

10. Demonstrated productivity and experience in statistical analysis methods (ideally MATLAB or R based) *OR* ability to collaborate closely with biostatistical experts

OTHER JOB RELATED INFORMATION

- Travel to other campuses of the University may be required
- There may be a requirement to work additional hours from time to time
- There may be peak periods of work during which taking of leave may be restricted
- This position will require a successful National Police Record check

GOVERNANCE

Monash University expects staff to appropriately balance risk and reward in a manner that is sustainable to its long-term future, contribute to a culture of honesty and integrity, and provide an environment that is safe, secure and inclusive. Ensure you are aware of and adhere to University policies relevant to the duties undertaken and the values of the University. This is a standard which the University sees as the benchmark for all of its activities in Australia and internationally.