The Florey
Advancing Brain Research

Position Description

Position Title: Research Officer	**Date Prepared:** 27th November 2023
Position Reports To: Science Operations Lead, AEP	**Theme/Team:** Epilepsy
Classification: RO1 (1.0 FTE)	**Location:** Melbourne Brain Centre, 245 Burgundy St, Heidelberg, Vic, 3084
Key Relationships: Internal: • Lead, Science Operations, AEP • Chief Investigator, AEP • AEP team External: • External collaborators at other research institutes, national and international	**Primary Purpose:** This position is as a post-doctoral Research Officer working as part of the Australian Epilepsy Project (AEP) within the Epilepsy Theme at the Florey Institute of Neuroscience and Mental Health. The AEP is a large, multi-centre project designed to change the current standard of care for epilepsy. The project is funded by the Medical Research Future Fund Frontiers program. A key goal of the project is to develop multimodal decision support tools integrating advanced neuroimaging, neuropsychology and genetic data to improve health outcomes in individuals with this life-changing condition. The successful applicant will conduct collaborative research with the AEP, The Florey and national and international collaborative networks. AEP is a large multidisciplinary team with expertise spanning physics, engineering and data science, neurology and radiology, neuropsychology, genetics and clinical data collection.

Primary Responsibilities:

- Develop novel artificial intelligence methods for analysis of advanced neuroimaging datasets with the goal of identifying epilepsy-related changes in brain tissue structure, composition and function. These may include microstructural, voxel- or surface-based or mesoscale network brain changes.
- Integrate imaging data with additional data collected as part of the AEP, including cognitive, genetic and clinical phenotypic data, to develop innovative methods for predicting health outcomes in epilepsy
- Applicants will be expected to disseminate their research through publications in high impact journals, software development, and presentations at national and international conferences.
- Support and train other AEP team members
- Independent preparation, or contribution to preparation, of research proposal submissions to external funding bodies
- Co-supervision of Honours, Masters and/or PhD students and projects
- Contribution to the research culture of the research group and the institute through membership of relevant committees and contributions to the group's research outputs
- Support the collective vision and mission of the Florey through
    - Open and collaborative communication that promotes positive and respectful relationships
    - Fostering and supporting innovation within the team and broader institute teams
    - Excellence in practice driven by a focus on equity, diversity and inclusivity

Occupational Health & Safety:

- Eliminate, or otherwise reduce so far as practicable, the risks of injuries, diseases and ill health that arise as a result of Florey activities through compliance with the Florey OH&S policy and procedures
- Continually incorporate and support improvement of the management of OH&S practices for Florey related activities
- Create and promote a positive and equitable workplace through awareness of issues that impact on health and wellbeing

Skills/Qualifications:

- PhD in physics, engineering, mathematics, data science or a related field

Experience/Knowledge:

- Experience with medical imaging data, image processing and analysis and related quantitative methods
- Experience developing predictive modeling frameworks for analysis of high dimensional data
- Proficient in Unix/Linux, high performance computing and programming (python, R and related languages)
- Experience with artificial intelligence/machine learning methods applied to medical imaging datasets

General Attributes:

- Ability to work independently
- Shows initiative
- Excellent organisational skills with an ability to prioritise tasks to meet deadlines
- Excellent interpersonal skills (i.e., able to work within a team environment)
- Excellent writing and oral communication skills
- Enjoys working collaboratively within a diverse multidisciplinary environment

Employee Name:	**Employee Signature:**	**Date:**