Postdoctoral Research Fellow

QUEENSLAND BRAIN INSTITUTE, THE UNIVERSITY OF QUEENSLAND, BRISBANE, AUSTRALIA

The Queensland Brain Institute (QBI) works to understand the development, organisation and function of the brain. We aim to understand the neural circuits in the brain, how their function results in behavioural outcomes, and how dysfunction of these circuits leads to disorders such as dementia, Parkinson's disease and schizophrenia. We aim to (1) Develop novel therapeutic approaches to treat disorders of neural function and (2) Use our understanding of brain function to improve learning in classrooms and in the workplace.

Established in 2003, QBI is housed on the St Lucia campus of The University of Queensland (UQ). It is home to more than 450 staff and students, including 41 group leaders. QBI has state-of-the-art core facilities for super resolution microscopy, flow cytometry, molecular genetics, histochemistry and behavioural testing. Access is also available to an advanced imaging facility, including 16.4T MRI, 9.4T MRI (with cryoprobe), 7T MR-PET and microPET/CT for animal imaging, and 7T, 3T and PET/CT for human imaging, housed in the Centre for Advanced Imaging.

Over the past decade QBI has become known as one of the world's leading neuroscience research institutes. It played a key role in contributing to UQ attaining the highest possible score of 5 for neuroscience, in both the 2010, 2012, and 2015 Excellence in Research for Australia (ERA) reviews, one of only two universities in Australia to achieve this. Details of the current QBI interdisciplinary research programs can be found at https://qbi.uq.edu.au/.

Functional and Molecular Neuroimaging Laboratory

The goal of the Functional and Molecular Neuroimaging Laboratory is to determine neural endophenotypes of brain functions and diseases using advanced neuroimaging, particularly magnetic resonance imaging (MRI) and positron emission tomography (PET), as a translatable tool between animal models and humans for improving diagnosis, prognosis and treatment development. The current focus is to understand the neural basis of large-scale spontaneous brain networks (resting-state networks) and their functional roles in learning, memory and dementia. We will identify and validate brain connectome changes in rodent models using genetic models and invasive techniques such as electrophysiology, neuronal calcium recording and tract tracing, and translate to human studies and patient cohorts.

The role: The primary purpose of the position is to map learning-dependent neuroplasticity of the brain connectome in rodents and investigate its relationship with synaptic plasticity, electrophysiology and behaviour. This will require extensive animal handling, behavioural experiments and functional imaging with Magnetic Resonance Imaging (fMRI) and fluorescent microscopy. We will validate the findings using chemo-/opto-genetic manipulations in these animal models.

The person: The applicants must have a PhD (or close to completion) in neuroscience, biomedical engineering, medical physics or related field. Applicants will have demonstrated track records and expert knowledge in the area of animal fMRI and fmRI data analysis. Experience in optogenetics and programming language (python, Matlab or C/C++) are desirable. Applicants will also have demonstrated ability to bring research to publication, excellent organisational and time management skills as well as a high level of written, oral and interpersonal communication skills.

The University of Queensland values diversity and inclusion and actively encourages applications from those who bring diversity to the University. Please refer to the University’s Diversity and Inclusion webpage (https://staff.uq.edu.au/information-and-services/human-resources/diversity) for further information and points of contact if you require additional support.

Remuneration: This is a full-time, fixed-term appointment for up to two years at Academic Research Level A, with possible extension to three years. The remuneration package will be in the range AUD$64,533 - $87,535 p.a., plus employer superannuation contributions of up to 9.5% (total package will be in the range AUD$70,663 - $95,850 p.a.).

Enquiries: To discuss this role please contact Associate Professor Kai-Hsiang Chuang on k.chuang@uq.edu.au. To submit an application for this role, go to http://jobs.uq.edu.au/caw/en/job/504287/postdoctoral-research-fellow and use the Apply button. All applicants must supply the following documents: Cover letter, Resume and Selection Criteria responses.

Applications close: 13 July 2018

Job no: 504287