Position Title:	Postdoctoral Researcher, Mammalian Brain Epigenomics
Position Classification:	Level A/B
Faculty/Office:	Health and Medical Sciences
School/Division:	Centre for Medical Research
Centre/Section:	Harry Perkins Institute of Medical Research
Supervisor Title:	Professor Ryan Lister
Supervisor Position Number:	314333

Your work area

This position is based within the the Epigenetics and Genomics Laboratory, led by Ryan Lister and located at the Harry Perkins institute of Medical Research and the UWA Centre for Medical Research (CMR), within the Faculty of Health and Medical Sciences. The Lister Lab is comprised of molecular, cellular and computational biologists, forming a multi-disciplinary team environment undertaking a diverse range of epigenetics and genomics research. We utilize molecular, cellular, genomic and computational approaches in multiple systems to investigate cellular mechanisms that control the usage of information encoded in the genome, and their roles in cell function and development. We have a particular interest in characterization and manipulation of the epigenome and cell identity using genomic and synthetic approaches.

Reporting Structure

Reports to: Professor Ryan Lister

Your role

A post-doctoral position is available to undertake research in the area of mammalian brain epigenomics. The appointee will have the opportunity to develop and lead experimental research projects using high-throughput single cell epigenome profiling techniques to investigate epigenome patterns and dynamics during neuronal differentiation and stimulation, both in vivo and in cell culture systems, and their perturbation in neurological disorders.

Candidates should have experience in a diverse range of molecular and cell biology techniques and a demonstrated record of research productivity in relevant areas. Expertise in molecular and cellular analyses in the context of brain development, neuronal function, and neurological disorders is highly relevant. Advantageous skills include experience with the isolation, culture, functional characterization and manipulation of mammalian neurons, flow cytometry, high throughput DNA sequencing, and bioinformatics as applied to genomics data analysis. A PhD in neurobiology, molecular biology, biochemistry, genetics, or related disciplines is required. This is a full-time position, initially for a period of two and a half years, with the possibility of further extension.

Your key responsibilities

- Lead the design, execution and analysis of experiments using high-throughput single cell epigenome profiling techniques to investigate epigenome patterns and dynamics during neuronal differentiation and stimulation, both *in vivo* and in cell culture systems, and their perturbation in neurological disorders.
- Develop, optimize and apply new single cell (epi)genomics experimental methods (e.g. chromatin accessibility, DNA methylation, transcription).
- Collaborate with computational biologists on the design, analysis and troubleshooting of experiments.
- Establish reliable and reproducible experimental systems to undertake the research project, and aid collaborators in development of such experiments.
- Write research articles for publication in leading international journals.
- Keep records and follow procedures required by the rules of funding agencies.
- Teach and supervise new researchers and students in the use and development of research approaches relevant to their projects.
- Contribute to the maintenance and troubleshooting of experimental and laboratory systems.
- Travel for research meetings and for research collaboration visits.
- Other duties as directed.

Your specific work capabilities (selection criteria)

- A PhD in neurobiology, molecular biology, genetics, or related disciplines is required.
- Expertise in molecular and cellular analyses in the context of brain development, neuronal function, and neurological disorders is highly relevant.
- Advantageous skills include experience with the isolation, culture, functional characterization and manipulation of mammalian neurons, flow cytometry, high throughput DNA sequencing, and genomics data analysis.
- Experience in a wide range of molecular and cell biology techniques, such as nuclei isolation, flow cytometry, working with low cell numbers for cell manipulation and nucleic acid isolation, DNA / RNA / protein / chromatin extraction and analysis, immunohistochemistry, construct design and cloning, sequencing, mammalian cell culture, microscopy (fluorescence, confocal microscopy).
- A demonstrated record of research productivity / publication in relevant areas.

Special Requirements

Nill

Compliance

Workplace Health and Safety

All supervising staff are required to undertake effective measures to ensure compliance with the Occupational Safety and Health Act 1984 and related University requirements (including Safety, Health and Wellbeing Objectives and Targets).

All staff must comply with requirements of the Occupational Safety and Health Act and all reasonable directives given in relation to health and safety at work, to ensure compliance with University and Legislative health and safety requirements.

Details of the safety obligations can be accessed at http://www.safety.uwa.edu.au

Inclusion and Diversity

All staff members are required to comply with the University's Code of Ethics and Code of Conduct and Inclusion and Diversity principles. Details of the University policies on these can be accessed at http://www.hr.uwa.edu.au/publications/code_of_ethics; http://www.web.uwa.edu.au/inclusion-diversity