

Position Description

Position Title:	Research Officer
Salary Range:	MCRI Research Salaries - Level A Research Officer - Step 1-3
Reporting Manager:	A/Prof Silvia Velasco
Direct Reports:	None
Home Group:	Neural Stem Cell group

Who are we?

The Murdoch Children's Research Institute (MCRI) is home to significant scientific discoveries. We believe there is an answer, a cure or a better treatment for every childhood condition – and we're determined to find it.

We are a diverse team of world-leading researchers, doctors, engineers, and hardworking professionals in corporate and scientific services from all corners of the world with one shared goal – to transform child health worldwide.

Our strength lies in our partnership and co-location with The Royal Children's Hospital and the University of Melbourne – the Melbourne Children's Campus. This rare model amplifies opportunities to quickly translate research into clinical care.

At MCRI, you'll also find our subsidiary organisation, the Victorian Clinical Genetics Services (VCGS), a specialist childhood, prenatal and adult genetics service. VCGS provides an integrated genetic consultation, counselling, testing and diagnostic support service to children, adults, families and prospective parents.

Together, we share a powerful vision: re-imagine the future of child health.

What is it like to work for us?

We are committed to ensuring a positive working environment that values all backgrounds and experiences. We cultivate an inclusive culture that is underpinned by equal opportunity for all and a culture based on respect, consideration and dignity. We are also committed to developing our people and fostering an environment where learning and development is central to our staff reaching their full potential.

Position Overview

MCRI, a world leader in child health research, is looking for a highly qualified candidate to join Associate Professor Silvia Velasco's Neural Stem Cell team. A/Prof. Velasco is seeking a Research Officer who has recently completed their PhD, and is an expert in stem cell culture, disease modelling, bioengineering and microfluidic techniques to work on a project focussed on the development of stem cell-derived 3D organoid models for the analysis of human brain development, to ultimately investigate how alterations to this process lead to neurodevelopmental disorders. In this role, the successful candidate will work under the direct supervision of A/Prof. Silvia Velasco, in an extremely collaborative research environment.

Key Accountabilities

- Generating *in vitro* 3D brain organoid models from human pluripotent stem cells (hPSCs).
- Optimizing current organoid protocols, to establish models that better mimic the complexity of the human brain.
- Performing standard characterisation of brain organoids, including immunohistochemistry, quantitative PCR, western-blotting, and imaging.
- Performing high throughput single-cell multi-omics and electrophysiological analysis on brain organoids.
- Design of experiments, data acquisition, analysis and interpretation.
- Undertaking high calibre, competitive research, providing significant contributions to the field.
- Generating high-quality publications and/or translational outcomes.
- Maintaining accurate notebooks of research outcomes.
- Supervising research assistants and contributing to teaching and examination of honours and postgraduate students.
- Disseminating research output within and external to MCRI, by presenting at national and international meetings.
- Engaging in the campus culture including professional development activities.
- Adhering to strict standards of research integrity and in line with the Australian Code for Responsible Conduct of Research and MCRI policies.
- Adhering to MCRI policy on Intellectual Property/Material Transfer Agreements/Contracts/Clinical and Public Health Outcomes.

Selection Criteria

Essential

- Ph.D. in Cell Biology, Molecular Biology, Genetics or related Life Science discipline.
- Significant lab expertise gained from training within an internationally renowned lab.
- Demonstrated experience in the maintenance and characterization of hPSCs.
- Demonstrated experience in cell and molecular biology, cell/tissue analysis (immunofluorescence staining, quantitative PCR, western blotting, co-immunoprecipitation), 3D bioprinting and use of microfluidic devices.
- Familiarity with high content imaging, including confocal and two-photon microscopy.
- Demonstrated capacity to work independently and interact professionally in a collaborative team environment.
- Evidence of research experience in the area of expertise, including publications and presentations at international conferences.
- Involvement in professional development opportunities.
- Willingness to develop and shift plans in service of a fast-paced and rapidly changing environment.
- Critical thinking and excellent verbal and written communication skills.
- Exceptional time management, attention to detail, lab notebook practices, and organisational and analytical problem-solving skills.

Desirable

- Experience in the maintenance of hPSC-derived neuronal cell cultures and mouse primary neuronal cultures and optimization of cell culture protocols.
- Experience in other specialist skills potentially including RNA- and DNA-biology essays, such as RNA immunoprecipitation (CLIP) and chromatin immunoprecipitation (CHIP).
- Advanced computer skills, including experience in statistics and bioinformatic analysis (R-studio, Python, MATLAB).
- Demonstrated success with fellowship/award applications.

Conditions of Employment

- Working with Children & National Police Clearance (if appointed) in compliance with the Victorian Governments Child Safety Standards.
- The right to reside and work in Australia through eligibility to apply for applicable visa.

Health, Safety & Wellbeing

- We are committed to providing and maintaining a working environment which protects the health, safety and wellbeing of our people, partners, and the community.
 - Employees conducting duties on behalf of MCRI are expected to meet the environment, health and wellbeing requirements and responsibilities specifically required for the role.
 - We are committed to supporting children in their right to be safe and adhere to the responsibilities we have to ensure their protection and safety as per the Child Safety Standards Policy.
 - Specified positions may be subject to medical review to ensure that the inherent requirements of the role can be undertaken safely.
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As MCRI evolves to meet its changing strategic and operational needs and objectives, so will the roles required of its employees. As such, this document is not intended to represent the position which the occupant will perform in perpetuity. This position description is intended to provide an overall view of the incumbent's role as at the date of this statement.