

POSITION DESCRIPTION

POSITION TITLE:	Research Assistant (Part-time)
CLASSIFICATION:	QR1
RESPONSIBLE TO:	A/Prof Quan Nguyen
LOCATION:	Herston

POSITION OBJECTIVES

The Research Assistant will support the newly-established National Centre for Spatial Tissue AI Research (NCSTAR) at QIMR Berghofer (QIMRB). The NCSTAR is a collaborative centre of excellence that will investigate disease mechanisms across oncology, inflammation and infectious disease, neuroscience, and chronic diseases.

Reporting to the Director of NCSTAR, the primary role of the Research Assistant is to assist in the operation of the NCSTAR facility and ensure the provision of spatial biology services. This includes providing a range of histology services to clients and conduct of experiments using spatial transcriptomic and spatial proteomic platforms. This position will work in close partnership with other staff in NCSTAR (Research Officer), the Genomics and Machine Learning Lab and core Scientific Services at QIMRB. Working with NCSTAR staff, the Research Assistant will coordinate with QIMRB Scientific Services to ensure the timely execution and scheduling of experiments. In addition, the Research Assistant will provide training to users on an as needs basis, and assist in the development of methods for specialist applications within NCSTAR.

ORGANISATIONAL CONTEXT

QIMR Berghofer is a statutory body under the *Queensland Institute of Medical Research Act (1945)*. QIMR Berghofer Medical Research Institute proudly serves the people of Queensland with better health and wellbeing through impactful medical research. Our collaborative research programs address the foremost health challenges of our time. Our research responds to health challenges arising from social and environmental factors and aims to advance Aboriginal and Torres Strait Islander health equity.

QIMR Berghofer has a vision to lead the way to significant innovation in health outcomes, nationally and globally. We are committed to supporting ground-breaking research discoveries, achieving sustainability and conducting impactful research.

The Institute focuses its research within four key Programs:

- Cancer Research
- Infection & Inflammation
- Brain and Mental Health
- Population Health

The Genomics and Machine Learning Lab (GML) studies cancer and infected tissues in patient samples and mouse models. They generate novel data from spatial and single cell technologies and develop new computational and statistical methods to find clinically important patterns from

this complex data. They pioneered the merging of two big data fields, sequencing, and imaging, to advance understanding of pathological processes one cell at a time and across all cells within a diseased tissue.

The National Centre for Spatial Tissue AI Research (NCSTAR) at QIMRB will serve as a centre of excellence for accelerating scientific and clinical progress in spatial biology. As a collaborative hub for integration of cutting-edge deep learning AI models with state-of-the-art spatial biology research, the NCSTAR will train the next generation of spatial biology researchers, and drive new discoveries to enable the translation of research into clinical applications. NCSTAR staff will work collaboratively across QIMRB and multi-institute partnerships and work closely with QIMRB Scientific Services.

QIMR Berghofer operates high quality integrated scientific support services that underpin our world-class research programmes. The Scientific Services includes facilities for sample processing, histology, microscopy, flow cytometry, sequencing, metabolomics and proteomics. The microscopy facility includes capabilities to provide cyclic immunofluorescence using the Akoya Phenocycler and spatial molecular imaging (molecular transcripts and protein) with the Nanostring CosMx and the 10-X Xenium and Visium platforms.

QIMR Berghofer promotes a *Working Better Together* operating model, recognising that whilst the purpose of the Institute is medical research, and the contribution of researchers is key, it cannot be done without the work of our highly-skilled professional staff. It recognises that we are all here to facilitate the same purpose – *Better health and wellbeing through impactful medical research*. *Working Better Together* is underpinned by the shared understanding and application of our values:

- Excellence
- Integrity
- Respect
- Collaboration
- Accountability

REPORTING AND RELATIONSHIPS

The Research Assistant reports to the Group Leader and is a member of the Genomics and Machine Learning Lab.

The Research Assistant works closely with NCSTAR Research Centre Project Manager, all members of the Genomics and Machine Learning Lab and the appropriate staff within Scientific Services.

PRIMARY RESPONSIBILITIES

- Conduct experiments, tasks or programs in spatial-omics technologies applied for human and mouse samples, including execution of experiments using spatial transcriptomic and proteomic platforms (eg Akoya Phenocycler, Nanostring CosMx, Xenium, Visium),
- Applies and/or instruct others on the application of advanced or specialist or technical research skills or processes, including spatial sequencing, histologic preparation of tissue (cryostat and microtome sectioning), imaging, sequencing library preparation
- Coordinate aspects of laboratory work, laboratory database management, including clinical sample management
- Coordinate with QIMRB Scientific Services to ensure the timely execution and scheduling of experiments.
- Troubleshoot issues with scientific/technical equipment
- Model and promote excellence and integrity, adhering to the highest quality and ethical standards

- Ensure work practices comply with the requirements of the Work Health and Safety Act, related legislative requirements and the Institute's Work Health & Safety (WH&S) policies and procedures
 - Work is conducted under the close supervision and with support, guidance and/or direction from NCSTAR staff.
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KEY SELECTION CRITERIA:

Essential

- Bachelor Science degree
- Knowledge and experience in current spatial-omics technologies
- Proven experience in histology techniques, including tissue processing and embedding, paraffin sectioning, cryomicrotomy and standard staining techniques
- Experience in the use and maintenance of standard histology infrastructure including tissue processing workstations, cold plates, microtomes, cryostats, automated staining equipment, and slide/cassette printers.
- Proven track record in the development of SOPs for procedural and equipment aspects of the lab
- Strong inter-personal and communication skills, with the ability to work collaboratively and liaise effectively with colleagues and students.

Desirable

- Evidence of research potential demonstrating that the applicant's research experience may have contributed to, or resulted in publications, conference papers, reports or other professional or technical contributions.
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QIMR Berghofer also offers:

- Salary Packaging
- State-of-the-art facilities
- Stimulating work setting focussed on cutting-edge medical research
- Supportive/collaborative team environment
- Parental leave provisions