

Position description

Position title:	Research Assistant
Employer:	Baker Heart and Diabetes Institute
Laboratories:	Atherothrombosis and Vascular Biology Molecular Imaging and Theranostics
Supervisor/Manager:	Prof Karlheinz Peter and Prof Xiaowei Wang
Date:	October 2024

Background

The Baker Heart and Diabetes Institute is an independent, internationally renowned medical research facility focused on cardiovascular disease (including stroke and hypertension), diabetes and their complications, such as kidney disease. We have a long and distinguished history, spanning more than 98 years with our work critical to today's healthcare challenges.

The Baker Institute is well positioned to address these challenges, with multidisciplinary teams comprising medical specialists, scientists and public health experts all focused on translating laboratory findings into new approaches to prevention, treatment and care.

Headquartered in Melbourne we are a key player in research, translation, education, advocacy and health promotion with a staff of more than 450 (including scientists, clinicians and students). Our senior staff represent us on a broad range of government advisory boards, from health and wellbeing to science and innovation. We also collaborate with leading international research groups as part of our commitment to assisting vulnerable communities around the world.

The Baker Institute is funded through a diverse range of sources including competitive grants, Federal and State Governments, service and clinical income and philanthropic support.

Laboratories

The [Atherothrombosis and Vascular Biology](#) laboratory and [Molecular Imaging and Theranostics](#) laboratory pursue a broad range of projects that have the common focus of improving the diagnosis and therapy of thrombotic and inflammatory diseases such as myocardial infarction, stroke and atherosclerosis. A range of biotechnological methods are used, including cell culture, flow cytometry, recombinant protein design/production, mRNA therapeutics, generation of functionalised nanoparticles/liposomes, flow chamber, intravital microscopy, ultrasound, MRI, various fluorescence imaging systems and various animal models of thrombosis, atherosclerosis, inflammation stroke and myocardial infarction. All of these projects have a strong translational orientation, which is facilitated by several laboratory members (physicians, haematologists, cardiologists) treating patients with haematological and cardiovascular diseases. Several of these research projects resulted in patents that are currently being developed further to ultimately improve the health of patients.

Position description

Nature of environment

- Productivity and quality-driven research environment.
- Deadline-driven, tight schedules, self-managed.
- Dynamic team of staff and students.
- Collaborative projects across multiple research platforms.
- Ability to work independently as well as part of a team.

Key job requirements, responsibilities and duties

- Perform and assist with preclinical models, particularly tissue collection followed by cell isolation and preparation for surgical procedures.
- Perform histological and immunohistological tissue preparation, staining, microscopy as well as critical data analyses.
- Production of mRNA therapeutics including lipo-nanoparticle production.
- Recombinant protein production.
- Perform biological, cell biological and molecular techniques, particularly flow cytometry, immunoblotting and ELISA, as well as RT-PCR.
- Responsibility for laboratory maintenance, including administrative tasks such as data management and inventory maintenance.
- Administrative functions in the context of lab organisation and research documentation. Depending on the level of experience, potentially employed as a lab manager.
- Coordinate, train, and aid other group members in developing improved techniques or procedures.
- Prepare materials for reports to be written by grant principals and staff on the research project.
- Record and consolidate research data.
- Contribute to the production of conference and seminar papers and publications from research.
- Guidance of students in lab work.
- Assure compliance with quality and safety programs.

This role may require other duties to be performed, as directed by the manager/supervisor from time to time, and it is a condition of employment that the successful candidate complies with any such reasonable requirement.

Meet statutory requirements of the company

Maintain up-to-date and accurate knowledge in:

- OHS legislation.
- EEO legislation.
- Privacy legislation.
- Confidential Information Policy.

Position description

- Baker Heart and Diabetes Institute Code of Conduct.
- Australian Code for the Responsible Conduct of Research.
- Baker Heart and Diabetes Institute Intellectual Property Agreement.

Requirements of the position holder

Key selection criteria

- Relevant Undergraduate degree, Graduate Diploma or equivalent research experience, preferably within the fields of biotechnology and/or pharmacology.
- Experience with preclinical mouse models such as atherosclerosis, myocardial infarction and other cardiac diseases.
- Animal handling skills, especially for intravenous and intraperitoneal injections, and surgical experience.
- Confidence in performing a diverse range of laboratory techniques, ranging from biotechnological methods to pre-clinical and translational science, and the ability to do so autonomously, as well as working as part of a team.
- Understanding of research areas related to mRNA therapeutics, nanotechnology, pharmacology and cardiovascular diseases, such as atherosclerosis, stroke, myocardial infarction, and other thrombo-inflammatory conditions.

Desired expertise and field of research

- Molecular biology (DNA vector design and cloning), and production of mRNA therapeutic.
- Biotechnology, particularly recombinant antibody design and production, with knowledge in cell biology, tissue culture, protein production and purification.
- Previous work in inflammation and immunological research.
- Functional assays with platelets and coagulation factors.
- Flow cytometric analysis of human and mouse cells as well as tissue samples.
- Microscopy imaging including widefield, confocal, intravital, and multiphoton microscopes.
- Histology, including histochemical stains and immunohistochemistry/immunofluorescence.
- Previous expertise as a Research Assistant.

Communication/interpersonal skills

- A high level of interpersonal skills, which will enable the appointee to liaise effectively with a wide range of people at varied levels internally and externally to the institute.
- Excellent oral and written communication skills.
- Demonstrated ability to be a proactive team member and contribute to team development.

Position description

Knowledge

- Understanding of research areas related to cardiovascular diseases, such as atherosclerosis, myocardial infarction, stroke, and other thrombo-inflammatory conditions.
- Understanding of research areas related to mRNA therapeutics and pharmacology.

Abilities

- Excellent planning and organisational skills, including the ability and flexibility to multi-task and coordinate several complex research projects at the same time, working with constantly changing deadlines and priorities, without compromising close attention to detail and accuracy.
- Demonstrated ability and willingness to take initiative and to improve and enhance existing systems and procedures to comply with quality assurance guidelines.
- Demonstrated ability to maintain confidentiality and comply with privacy requirements.
- Demonstrated ability to work cost-effectively within budget, optimising lab resources.

Summary of position

This is a position initially for 12 months, with provision to extend.

As the Baker Institute evolves to meet its changing strategic and operational needs and objectives, so will the roles required of its staff members. As such, staff should be aware that this document is not intended to represent the position that 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. In addition to this document, the specifics of the incumbent's role will be described in Key Performance Indicators (KPIs) developed by the incumbent and relevant supervisor as part of the Baker Institute's performance appraisal and development process.

The Baker Institute is an Equal Opportunity Employer and we encourage interest from Aboriginal and Torres Strait Islanders and members of the LGBTIQ+ community for roles within the Institute. We value diversity, inclusivity, gender equity and we promote family-friendly practices. We are a proud recipient of an inaugural Athena SWAN Bronze Award from Science in Australia Gender Equity (SAGE).