

Position description

Position title:	Research Officer (Postdoctoral Researcher)
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:	November 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 of 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

Both the [Atherothrombosis and Vascular Biology](#) laboratory and the [Molecular Imaging and Theranostics](#) laboratory pursue a broad range of projects with the common focus of improving the diagnosis and therapy of thrombotic and inflammatory diseases such as myocardial infarction and atherosclerosis. A range of biotechnological methods are used, including recombinant protein design/production, cell culture, flow cytometry, generation of functionalised nanoparticles/liposomes/microbubbles, flow chamber, intravital microscopy, ultrasound, MRI, PET, various fluorescence imaging systems and various animal models of thrombosis, atherosclerosis and inflammation. 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.

Our working environment

- Productivity and research-driven.

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- Deadline-driven, tight schedules, self-managed.
- Dynamic team of staff and students.
- Collaborative projects across multiple research platforms.
- Work independently as well as part of a team.

Travel requirements

- Travel to national and international conferences related to research will be offered.

Key job requirements, responsibilities and duties

- Participate in the design, execution and management of translational research projects.
- Apply broad and innovative approaches and use previous experience towards the resolution of problems.
- Perform literature and manuscript reviews relevant to the respective research area.
- Prepare research papers and manuscripts for publication and presentation at conferences and workshops, and actively participate in the writing of project reports, grants and other documents.
- Coordinate the conduct of experimental tests and procedures as well as the acquisition and critical analysis of research data.
- Develop new and/or revise current research methodologies, experimental designs and analytical methods.
- Coordinate and supervise the work of laboratory/research assistants, students and other support personnel, including supervision of undergraduate and postgraduate (Honours, Masters, MD, and PhD) projects.
- Assure compliance with occupational and safety programs.
- Proactively attend team meetings and all relevant seminars and staff meetings.
- Publication and quality-focused research.
- Development of novel diagnostic and therapeutic technologies (including patent-relevant work).
- Determined to pursue an academic career.

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.
- Baker Heart and Diabetes Institute Code of Conduct.

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

Requirements of position holder

Key selection criteria

- A PhD is essential, preferably within the fields of biotechnology and/or pharmacology.
- Strong track record with proven ability to obtain funding and publish manuscripts.
- Robust skills in grant and manuscript writing, and experience with ethics applications and processes.
- Demonstrated ability to supervise, mentor, and foster the development of students.
- Confidence in performing a diverse range of laboratory techniques, ranging from molecular biology and biotechnological methods to pre-clinical and translational science, and the ability to do so autonomously, as well as performing as part of a team.
- Understanding of research areas related to mRNA therapeutics, nanotechnology, pharmacology and cardiovascular diseases, such as inflammatory diseases, atherosclerosis, thrombosis, myocardial infarction, heart failure and other cardiometabolic diseases.

Preferred skills and expertise

- Previous work in inflammation, atherosclerosis, and/or immunological research.
- Experience in molecular biology, design, and production of mRNA therapeutics.
- Microscopy including widefield, confocal, and potentially intravital and multiphoton microscopes.
- Flow cytometric analysis of human and mouse cells as well as tissue samples.
- Experience in cell culture.
- Bionanotechnology, particularly nanoparticle design, production, and characterisation.
- Experience with preclinical mouse models such as atherosclerosis, thrombosis, myocardial infarction, inflammation, heart failure, and other cardiometabolic diseases.
- Animal handling skills, especially for intravenous and intraperitoneal injections; surgical experience is highly welcomed.
- Histology, including histochemical stains and immunohistochemistry/immunofluorescence.

Communication/interpersonal skills

- A high level of interpersonal skills, which 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.

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Preferred knowledge

- Understanding of research areas related to cardiovascular diseases, such as atherosclerosis, myocardial infarction and other thrombo-inflammatory conditions.
- Understanding of research areas related to mRNA therapeutics and pharmacology.
- Immunological and/or platelet function background.

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 dependent upon project progress and funding.

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).