

# SENIOR RESEARCH FELLOW

DEPARTMENT/UNIT	Drug Discovery Biology (DDB)
FACULTY/DIVISION	Faculty of Pharmacy and Pharmaceutical Sciences
CLASSIFICATION	Level C
DESIGNATED CAMPUS OR LOCATION	Parkville campus

## ORGANISATIONAL CONTEXT

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At [Monash](#), work feels different. There's a sense of belonging, from contributing to something groundbreaking – a place where great things happen. You know you're part of something special and purposeful because, like Monash, your ambitions drive you to make change.

We have a clear purpose to deliver ground-breaking intensive research; a world-class education; a global ecosystem of enterprise – and we activate these to address some of the [challenges](#) of the age, Climate Change, Thriving Communities and Geopolitical Security.

We welcome and value difference and [diversity](#). When you come to work, you can be yourself, be a change-maker and develop your career in exciting ways with curious, energetic, inspiring and committed people and teams driven to make an impact – just like you.

Together with our [commitment to academic freedom](#), you will have access to quality research facilities, infrastructure, world class teaching spaces, and international collaboration opportunities.

We champion an [inclusive workplace culture](#) for our staff regardless of ethnicity or cultural background. We have also worked to improve [gender equality](#) for more than 30 years. Join the pursuit of our purpose to build a better future for ourselves and our communities – [#Changelt](#) with us.

The Faculty of Pharmacy and Pharmaceutical Sciences is dynamic, innovative and ambitious, engaging in world-class research and being a leading education provider for over 130 years. Our key research initiative is the Monash Institute of Pharmaceutical Sciences, in which we engage some of the best equipped and most experienced pharmaceutical scientists and medicine experts in Australia. Notably for the past 3 years Monash has been ranked in the top 3 institutions in the world for Pharmacy and Pharmacology. From a teaching perspective, our education curriculum - comprised of undergraduate, postgraduate and higher degrees by research programs - is purpose

designed for the study of pharmacy and pharmaceutical sciences and taught by discipline experts. Our premises are located in 'the Parkville Strip', Australia's premiere health and biomedical precinct, and offer world-class teaching facilities and research laboratories to our students and staff. To learn more about the Faculty, please visit our website: [www.monash.edu/pharm/](http://www.monash.edu/pharm/)

The Monash Institute of Pharmaceutical Sciences (MIPS) integrates research from five fundamental research themes to identify, develop, optimise and deliver new drug treatments – ultimately translating basic research into clinical trials. These are the Centre for Drug Candidate Optimisation, Drug delivery, disposition and dynamics, Drug discovery biology, Medicinal chemistry and the Centre for Medicine Use and Safety

MIPS is Australia's largest, most experienced and successful group of pharmaceutical scientists. Over 250 staff and 250 PhD students undertake and support basic and translational drug discovery, drug delivery and drug development research in new, state-of-the-art laboratories on Monash's Parkville campus. MIPS was established in 2008 and builds upon the ground-breaking research activities of the Victorian College of Pharmacy, Monash University, developers of the Relenza flu treatment. Our internationally recognised institute strives to conduct the most insightful science in our field by the best researchers and research students in world-class facilities. Our contemporary and collaborative organisational structure enables our research to occur where our core scientific disciplines meet. Collaboration at these disciplinary interfaces is expected to transform medicine design and development outcomes.

MIPS key therapeutic programs span across neuroscience, metabolic and cardiovascular diseases, global health issues, cancer, immunity, pain and inflammation. Our researchers are leaders in their fields. Their brilliance and dedication ensures that better medicines of world significance are discovered, researched and designed right here in Australia. Our talented staff include international leaders in G protein-coupled receptor biology (GPCR), translational medicinal chemistry, structural biology, lead candidate optimisation, drug delivery, pharmacoepidemiology, pharmacometrics and medication safety.

MIPS has strong partnerships with industry leaders, including the global drug companies Servier, Takeda and Lonza, Biotech companies including Starpharma and PureTech Health and our own start-up companies such as Cincera. In total, we have long-term collaborative research programs with more than 20 biotechnology and pharmaceutical companies. We also collaborate with leading national and international research institutes and universities and attract substantial support from industry, government and funding agencies. Our supporters include the ARC, NHMRC, Victorian State Government Science Agenda, Health Workforce Australia, the National Institutes of Health in the US, the World Health Organisation (WHO), the Bill and Melinda Gates Foundation, the Medicines for Malaria Venture, the Drugs for Neglected Diseases initiative and various commercial and philanthropic organisations

The Drug Discovery Biology (DDB) research teams within the Monash Institute of Pharmaceutical Sciences (MIPS) comprise a critical mass of scientists with broad expertise in receptor-molecular and cellular biology, whole-animal studies and translational discovery research.

## **POSITION PURPOSE**

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A Level C research-only academic is expected to make independent or original contributions to the research effort within their field of expertise and to the organisational unit or inter-disciplinary area of which they are a part. An academic at this level is expected to play a major role in research including the exercise of some leadership in research.

The Senior Research Fellow performs a range of research-related activities (including administrative and operational responsibilities) to support the delivery of research program outcomes. The Senior Research Fellow will provide advanced expertise in computational chemistry, molecular modelling, cheminformatics and use of high-performance computing in support of academic and commercial projects on G protein-coupled receptors (GPCRs) or other membrane proteins. The Senior Research Fellow will provide leadership in this area and will be able to work independently to achieve the research goals of the team.

**Reporting Line:** The position reports to an Academic within the DDB Theme

**Supervisory Responsibilities:** Not applicable

**Financial Delegation:** Not applicable

**Budgetary Responsibilities:** Not applicable

## KEY RESPONSIBILITIES

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Specific duties required of a Level C research-only academic may include:

1. The conduct of research and the production of conference and seminar papers and publications from that research
2. Supervision of research-support and administrative staff involved in the staff member's research
3. Supervision, where appropriate, of the research of less senior research-only Academic staff
4. Involvement, where appropriate, in the promotion of research links with outside bodies
5. Preparation of research proposal submissions to external funding bodies
6. Significant role in research projects including, where appropriate, leadership of research teams or management of projects
7. Responsibility for the oversight of financial management of grants received for their research projects
8. Involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise
9. Occasional contributions to the teaching program within the field of the staff member's research
10. Supervision of major honours or postgraduate research projects within the field of the staff member's area of research
11. Various research-related administrative functions
12. Attendance at meetings associated with research or the work of the organisational unit to which the research is connected and/or at departmental, school and/or faculty meetings and a major role in planning and committee work
13. Other duties as directed from time to time

## KEY SELECTION CRITERIA

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### Education/Qualifications

1. The appointee will have:
  - A doctoral qualification in the relevant discipline area or equivalent accreditation and standing together with subsequent research experience.

## Knowledge and Skills

2. Extensive experience in computational chemistry and workflows in the areas of ligand-based/structure-based drug design; examples of relevant experience include virtual screening, hit expansion, matched molecular pair analysis, molecular docking, molecular dynamics, scaffold hopping, structure-activity relationships and library generation/enumeration or equivalent experience
3. Expertise experience in machine learning enabling the development of machine learning/deep learning models (parametrise, train, validate, predict) and deployment of models
4. Expertise experience in use and application of molecular modelling, cheminformatics and computational chemistry software (e.g. Schrödinger suite, Molsoft ICM etc....) and a willingness to learn new packages as appropriate.
5. Expertise experience in information technology associated with the field, including setup, maintenance, and execution of CPU and GPU compute cluster workflows (e.g. Unix/Bash, Slurm/PBS, Python, Git/Github/Gitlab).
6. Specific experience in the application of computational chemistry to the study of GPCRs.
7. Experience in chemical library management, including the ability to implement standardisation, conversion, filtering, clustering, comparison, visualisation and selection (e.g. in relation to chemical diversity).
8. Demonstrated and strong record of publications, conference papers, reports and/or professional and/or technical contributions in the relevant discipline area
9. Proven track record of obtaining significant external grants for research
10. Experience in successfully supervising, mentoring and coaching to support the development of research staff and in establishing and leading a successful research team and/or demonstrated evidence of leadership capability
11. Experience in supervising and working with major honours, postgraduate research projects and/or and the co-supervision of PhD students
12. The ability to work independently in a research environment and as part of an inter-disciplinary research team
13. High level organisational skills, including the ability to plan and manage the use of research funds, with demonstrated capacity to establish and achieve goals
14. Excellent written and oral communication skills including the ability to prepare and communicate the aims and outputs of research projects in a range of formats
15. A demonstrated capacity to work in a collegiate manner with other staff in the workplace

## OTHER JOB RELATED INFORMATION

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- Travel to other campuses of the University may be required
- There may be a requirement to work additional hours from time to time
- There may be peak periods of work during which taking of leave may be restricted

## GOVERNANCE

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Monash University expects staff to appropriately balance risk and reward in a manner that is sustainable to its long-term future, contribute to a culture of honesty and integrity, and provide an environment that is safe, secure and inclusive. Ensure you are aware of and adhere to University policies relevant to the duties undertaken and the values of the University. This is a standard which the University sees as the benchmark for all of its activities in Australia and internationally.