RESEARCH FELLOW

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

ORGANISATIONAL CONTEXT

Everyone needs a platform to launch a satisfying career. At Monash, we give you the space and support to take your career in all kinds of exciting new directions. You'll have access to quality research, infrastructure and learning facilities, opportunities to collaborate internationally, as well as the grants you'll need to publish your work. We're a university full of energetic and enthusiastic minds, driven to challenge what's expected, expand what we know, and learn from other inspiring, empowering thinkers. Discover more at www.monash.edu.

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/

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

A Level B research-only academic is expected to have high-level experience enabling performance of independent research and/or team research within the field in which they are appointed and to carry out activities to develop their research activities relative to the particular field of research. The Research Fellow performs a range of research-related activities (including administrative and operational responsibilities) to support the delivery of research program outcomes. The 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 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: This position reports to an Academic~~Professor~~ within the DDB Theme~~Denise Wootten~~

Supervisory Responsibilities: Not applicable

Financial Delegation: Not applicable

Budgetary Responsibilities: Not applicable

KEY RESPONSIBILITIES

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

1. The conduct of research either as a member of a team or independently and the production of conference and seminar papers and publications from that research

2. Supervision of research-support staff involved in the staff member's research

3. Guidance in the research effort of junior members of research-only Academic staff in their research area

4. Contribution to the preparation of reports and, where appropriate, individual preparation of research proposal submissions to external funding bodies.

5. Involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise

6. Administrative functions primarily connected with their area of research

7. Co-supervision or, where appropriate, supervision of projects within the field of the staff member's area of research

8. 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/or membership of a limited number of committees

9. Other duties as directed from time to time

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:

   ● A doctoral qualification in the relevant discipline area or equivalent qualifications, and extensive 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. Substantial experience in machine learning enabling the development of machine learning/deep learning models (parametrise, train, validate, predict) and deployment of models

4. Substantial 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. Substantial 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. 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).

7. Specific experience in the application of computational chemistry to the study of GPCRs would be highly desirable.

8. A demonstrated awareness of the principles of confidentiality, privacy and information handling (previous experience would be an advantage i.e., industry setting).

9. Demonstrated understanding, and implementation of best-practice scientific recording keeping.

10. Ability to solve complex problems by using discretion, innovation and the exercise of high-level diagnostic skills within areas of functional responsibility or professional expertise.

11. Excellent written communication and verbal communication skills with proven ability to effectively analyse complex information and produce clear, succinct reports and documents which requires interaction with others.

12. Well-developed high level, planning and organisational skills, with the ability to prioritise multiple tasks and set and meet deadlines.

13. The ability to work both independently in a research environment and as part of an inter-disciplinary research team.

14. Advanced computer skills with experience using Microsoft Word, Excel and PowerPoint.

OTHER JOB-RELATED INFORMATION

- 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
- ~~Candidates are required to complete the Good Character and Reputation declaration prior to appointment~~

GOVERNANCE

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.