RESEARCH FELLOW – THERAPEUTIC NANOPARTICLES

DEPARTMENT/UNIT	Drug Delivery, Disposition and Dynamics
FACULTY/DIVISION	Faculty of Pharmacy and Pharmaceutical Sciences
CLASSIFICATION	Level A
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 **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 ensure 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, 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, the National Institutes of Health in the US, the World Health Organization (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 delivery, disposition and dynamics (D4)** research teams within the Monash Institute of Pharmaceutical Sciences (MIPS) are designing and developing the next generation of drug delivery systems and anti-infective agents to enhance medicine effectiveness and patient treatment.

POSITION PURPOSE

A Level A research-only academic is expected to contribute towards a US Department of Defense funded project related to the development of nanoparticle-based drug delivery systems for chronic wounds.

The Research Fellow will perform a range of research-related activities, including administrative and operational responsibilities, to support the delivery of this research program outcomes. Working under broad direction, they will be responsible for performing preclinical studies in collaboration with collaborators at the University of South Australia and the University of Adelaide.

Reporting Line: The position reports to the relevant senior academic within Drug Delivery, Disposition and Dynamics

Supervisory Responsibilities: Not applicable

Financial Delegation: Not applicable

Budgetary Responsibilities: Not applicable

KEY RESPONSIBILITIES

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

1. The conduct of research under limited supervision either as a member of a team or, where appropriate, independently and the production or contribution to the production of conference and seminar papers and publications from that research
2. Prepare and characterise antibody loaded porous silicon nanoparticles
3. Involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise
4. Limited administrative functions primarily connected with the area of research of the academic
5. Development of a limited amount of research-related material for teaching or other purposes with appropriate guidance from other staff
6. Occasional contributions to teaching in relation to their research project(s)
7. Experimental design and operation of advanced laboratory and technical equipment or conduct of advanced research procedures
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. Advice within the field of the staff member's research to postgraduate students
10. Other duties as directed from time to time

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
   - A doctoral qualification in pharmaceutical sciences, materials science or a related discipline and relevant research experience.

Knowledge and Skills

2. Strong evidence of previous research experience in drug loading of nanoparticles
3. Expertise in porous silicon nanoparticle fabrication
4. Experience of, or the ability to quickly learn, in vivo experiments and their evaluation
5. Demonstrated analytical and manuscript preparation skills
6. Ability to solve complex problems by using discretion, innovation and the exercise diagnostic skills and/or expertise
7. Well-developed planning and organisational skills, with the ability to prioritise multiple tasks and set and meet deadlines
8. Excellent written communication and verbal communication skills with proven ability to produce clear, succinct reports and documents
9. A demonstrated awareness of the principles of confidentiality, privacy and information handling
10. A demonstrated capacity to work in a collegiate manner with other staff in the workplace
11. Demonstrated computer literacy and proficiency in the production of high level work using software such as Microsoft Office applications and specified university software programs, with the capability and willingness to learn new packages as appropriate

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

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.