POSITION DESCRIPTION

Research Assistant – Biosensor Fabrication

Position Level    5
Faculty/Division  Engineering - GBIOM
Position Number   00147678
Original document creation  17/11/2022

Position Summary

The Research Assistant will work closely with Associate Professor Mohit Shivdasani’s research team in the Graduate School of Biomedical Engineering, UNSW to execute an industry driven and funded project titled “A prototype device for patient-tailored diagnosis and treatment of inflammatory bowel disease”. The Research Assistant will be responsible for designing and conducting research experiments, writing weekly/quarterly/half-yearly reports, attending the weekly meeting of the research group and quarterly meeting with the industry to report project progress. The project is funded through an industry sponsored research grant and the goals of this research are to:

1. Develop a method and a biosensor capable of measuring pro-inflammatory cytokines in the colon in-situ over long-term.
2. Assess the sensitivity, specificity, stability and reliability of various sensor designs and geometries suitable for long-term in-situ.
3. Examine changes in colonic cytokine levels as a function of disease severity and/or a function of treatment in existing preclinical IBD treatment models.
4. Develop a prototype fully implantable cytokine biosensor and test its safety and efficacy in a series of acute and chronic preclinical studies.

The role of Research Assistant reports to Associate Professor Mohit Shivdasani, and has no direct reports.

Accountabilities

Specific responsibilities for the role include:

- Provide practical and efficient administrative services to stakeholders
• Respond to enquiries from internal and external stakeholders in a timely manner, and provide advice and action as required
• Engage with co-workers to learn new techniques and processes
• Conduct lab experiments for the project independently and as part of a team according to the agreed timeline and milestones with the industry sponsor
• Fabricate and characterise sensors as required for various animal studies
• Attend all weekly lab meetings and industry sponsor-initiated progress review meetings
• Assist with the writing of half-yearly progress reports to be sent to the industry sponsor
• Contributes to the coordination of research activities and research outputs to meet project milestones
• Assist with the supervision and training of research students in the research area where required
• Support health and safety activities and ethics requirements in compliance with relevant UNSW policies including risk assessments, implementation of safe work procedures.
• Assist in the development and maintenance of relevant WHS records and registers, provision of WHS training and inductions to staff, students and contractors.
• Align with and actively demonstrate the UNSW Values in Action: Our Behaviours and the UNSW Code of Conduct.
• Cooperate with all health and safety policies and procedures of the university and take all reasonable care to ensure that your actions or omissions do not impact on the health and safety of yourself or others.

Skills and Experience

• Minimum completion of a degree in Bachelor of Engineering or Masters of Engineering and/or an equivalent level of knowledge gained through any other combination of education, training and/or experience
• Demonstrated experience in chemical sensor development and characterisation
• Comprehensive working knowledge of inflammatory markers and cytokine sensors
• Proven ability to work in a team, collaborate across disciplines and build effective relationships
• Demonstrated ability to prioritise workloads, deal with multiple tasks and projects, establish priorities and meet competing deadlines
• Strong interpersonal skills with demonstrated ability to communicate and interact with a diverse range of stakeholders and students
• Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training.
• An understanding of and commitment to UNSW’s aims, objectives and values in action, together with relevant policies and guidelines.
• Ability and capacity to implement required UNSW health and safety policies and procedures.
PRE-EMPLOYMENT CHECKS REQUIRED FOR THIS POSITION

Verification of qualifications

About this document
This Position Description outlines the objectives, desired outcomes, key responsibilities, accountabilities, required skills, experience and desired behaviours required to successfully perform the role.

This template is not intended to limit the scope or accountabilities of the position. Characteristics of the position may be altered in accordance with the changing requirements of the role.