Position Description

Postdoctoral Fellow

ORGANISATIONAL ENVIRONMENT

UNSW is currently implementing a ten-year strategy to 2025 and our ambition for the next decade is nothing less than to establish UNSW as Australia’s global university. We aspire to this in the belief that a great university, which is a global leader in discovery, innovation, impact, education and thought leadership, can make an enormous difference to the lives of people in Australia and around the world.

Following extensive consultation in 2015, we identified three strategic priority areas. Firstly, a drive for academic excellence in research and education. Universities are often classified as ‘research intensive’ or ‘teaching intensive’. UNSW is proud to be an exemplar of both. We are amongst a limited group of universities worldwide capable of delivering research excellence alongside the highest quality education on a large scale. Secondly, a passion for social engagement, which improves lives through advancing equality, diversity, open debate and economic progress. Thirdly, a commitment to achieving global impact through sharing our capability in research and education in the highest quality partnerships with institutions in both developed and emerging societies. We regard the interplay of academic excellence, social engagement and global impact as the hallmarks of a great forward-looking 21st century university.

To achieve this ambition, we are attracting the very best academic and professional staff to play leadership roles in our organisation.

VALUES IN ACTION: OUR UNSW BEHAVIOURS

UNSW recognises the role of employees in driving a high-performance culture. The behavioural expectations for UNSW are below.

Delivers high performance and demonstrates service excellence.

Thinks creatively and develops new ways of working. Initiates and embraces change.

Works effectively within and across teams. Builds relationships with internal and external stakeholders to deliver outcomes.

Values individual differences and contributions of all people and promotes inclusion.

Treats others with dignity and empathy. Communicates with integrity and openness.
OVERVIEW OF RELEVANT AREA AND POSITION SUMMARY

The School of Chemistry at UNSW is recognised nationally and internationally, for producing world-class fundamental and applied research in the field of Chemical Sciences to address real-world challenges. The School's research is focused on five key themes: Health, Energy, Advanced Materials, New Chemical Frontiers and Knowledge Exchange.

Equipped with modern, state-of-the-art teaching and research laboratories, the School is home to 2000 undergraduates students, 160 postgraduates and 70 research staff. Our commitment to equity and diversity is the pillar of a supportive school that takes pride in our collective achievements and works together for the betterment of society. For further information about the School, please visit www.chemistry.unsw.edu.au

The Postdoctoral Fellow will work with a highly interdisciplinary team of scientists, spanning molecular biology, bioengineering, chemistry, and materials science and engineering. Lab members have interests in using materials chemistry to emulate aspects of the cell and tissue microenvironment, towards model systems of development and disease, and new approaches for regenerative medicine. The team has strong connection to various medical research groups at UNSW and outside UNSW.

The Postdoctoral Fellow will establish new classes of heterotypic tumour models using various microengineering and 3D bioprinting techniques. This will involve the development of novel hydrogel biomaterials, spatial organisation of tumour cells, stroma, vasculature and immune components, with scope for translation to high-throughput formats and high-content imaging.

The Postdoctoral Fellow reports to Associate Professor Kris Kilian and has no direct reports.

RESPONSIBILITIES

Specific responsibilities for this role include:

- Perform daily cell and tissue culture in a BSL2 laboratory.
- Develop tunable 3D hydrogel biomaterials and encapsulate cells, spheroids and organoids.
- Perform immunofluorescence staining and imaging, flow cytometry, qRT-PCR, western analysis, etc.
- Design and develop high-throughput/high-content assays for combinatorial drug studies.
- Contribute to the writing of scientific papers and reports for international journals and progress reporting to other researchers and industry partners.
- Assist with the coordination of research activities and actively contribute to research outputs to meet project milestones.
- Contribute to the preparation of research proposal submissions to funding bodies and actively seek collaboration with industry partners as appropriate.
- Participate in and/or present at conferences and/or workshops relevant to the project as required.
- Assist with the supervision of research students in the research area where required.
- Coordinate activities in the field and provide monthly reports on progress.
- Assist with management of research laboratory.
- 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.
SELECTION CRITERIA

- A PhD in Biomedical Engineering, Cell Biology, or related field.
- Demonstrated ability to conduct independent research with limited supervision.
- Demonstrated skills and knowledge in cell and molecular biology.
- Demonstrated knowledge in hydrogel biomaterials and multicellular structures (spheroids, organoids).
- Demonstrated track record of publications in high-impact journals in biomedical engineering and cell biology.
- Demonstrated ability to work in a team, collaborate across disciplines and build effective relationships.
- Strong interpersonal skills with demonstrated ability to communicate and interact with a diverse range of stakeholders and students.
- Excellent written and verbal communication skills.
- Demonstrated experience in supervising and training research students.
- Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training.

Desirable

- Demonstrated experience working with animals and patient derived xenograft models.
- Demonstrated experience with high-throughput cell assays.

It is not the intention of the position description to limit the scope or accountabilities of the position but to highlight the most important aspects of the position. The aspects mentioned above may be altered in accordance with the changing requirements of the role.