University of Nottingham
UK | CHINA | MALAYSIA

Role profile

Job title	Research Associate/Fellow (Title will be 'Research Associate' where an appointment is made before PhD is completed)	Job family and level	Research and Teaching Level 4 (Appointment will be Level 4 career training grade where an appointment is made before PhD has been completed)
School/ Department	School of Pharmacy / Regenerative Medicine and Cellular Therapies Division	Location	Biodiscovery Institute, University Park Campus

Purpose of role

This role offers an exciting opportunity to develop a new generation of **3D printed synthetic bone grafts** that influence the behaviour of mammalian cells through their ability to respond to the shape of their environment. The project focuses on the use of projection **microstereolithography**, ***in vitro* bone cell culture**, and ***in vivo* bone injury models** to develop these new materials intended for future clinical translation. You will take a lead in designing experimental strategies and delivering key components of the project, being responsible for planning and conducting experiments using appropriate, state-of-the-art methodologies and for preparing high-quality outputs for publication in peer-reviewed journals.

You will work closely with a collaborative and multidisciplinary team led by **Dr Robert Owen**, whose research integrates material science, mechanobiology, and tissue engineering. This environment provides excellent opportunities for scientific and career development.

The role is based in the School of Pharmacy, in collaboration with the Centre for Additive Manufacturing in the Faculty of Engineering. Both Schools are committed to supporting the career progression and professional development of all staff, offering structured guidance, training opportunities, and a vibrant academic community.

To find out more, please visit the websites for the School of Pharmacy and Centre for Additive Manufacturing.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	**Research Responsibilities:** • To manage, plan and conduct research activities in line with the research objectives to achieve the goals of the project as agreed with the funder. This will require using recognised approaches, methodologies, and techniques within the research area and in agreement with the academic leads of the project. • To resolve problems, in meeting research objectives and deadlines, both independently and in collaboration with others.	70 %
2	**Engagement, Communication and Continuation Responsibilities:**	25 %

	• To write up research work for publication and/or contribute to the dissemination at national/international conferences, resulting in successful research outputs. • To collaborate with academic colleagues on areas of shared interest for example, course development, collaborative or joint research projects. • To engage in a professional manner with external stakeholders, including with industry, external academic partners, clinicians and patients.	
3	**Teaching and supervision** You are expected to make a contribution to teaching that is in balance with wider contributions to research and other activities.	5%
4	**Other:** • Any other duties appropriate to the grade and level of the role	N/A

Person specification

	Essential	**Desirable**
Skills	• Experience of high-resolution stereolithography for tissue engineering/regenerative medicine research • Experience of 3D cell culture of mesenchymal stromal cells or other osteoblast-lineage cell types • Experience of *in vitro* assays for osteogenesis • Experience of histological processing and staining OR experience of microCT • Willingness to perform *in vivo* work and attain a personal licence • Excellent oral and written communication skills, including the ability to communicate with clarity on complex information. • High-quality research outputs appropriate for career stage • Ability to build relationships and collaborate with others	• Experience of additive manufacturing by projection microstereolithography • Experience of 3D primary human mesenchymal stromal cell culture and osteogenic differentiation • Experience of performing *in vivo* work under licence, whether animal research or clinical experience • Experience of histological processing and staining AND experience of microCT
Knowledge and experience	• Knowledge of the polymer chemistry that underpins light-based additive manufacturing	• Knowledge of the mechanobiology that allows cells

	• Knowledge of the osteogenic differentiation and osteogenesis processes • Knowledge of UK Health and Safety requirements for laboratory work including the writing of Standard Operating Procedures and Risk Assessments. • Experience of planning and executing a research programme • Experience of applying the research methodologies and techniques required to work within area.	to respond to their physical environment • Knowledge of the process of clinical translation of academic research • Experience of regulatory frameworks relevant to clinical translation of medical devices • Experience of clinical translation of research
Qualifications, certification and training (relevant to role)	• Hold, or be near to completion, of a PhD or equivalent in Biomaterial Science and Tissue Engineering or related area.	

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Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

Valuing people	Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.
Taking ownership	Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.
Forward thinking	Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.
Professional pride	Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.
Always inclusive	Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.

Key relationships with others