



Job title	Research Associate/Fellow in Muscle Tissue Engineering (NIHR Nottingham BRC) (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 will support an NIHR Nottingham Biomedical Research Centre (BRC) project focused on developing gene delivery-based regenerative therapies to enhance bone repair using clinically relevant samples. The postholder will lead the design, development and evaluation of advanced gene delivery systems, cell differentiation strategies and hydrogel-based biomaterial platforms, working within a multidisciplinary team across the School of Pharmacy and Nottingham University Hospitals NHS Trust. The successful candidate will independently plan and conduct experimental research, analyse complex datasets, publish high-quality research outputs and contribute to the wider research, teaching and collaborative activities of the group.

To find out more, please visit the website for the [School of Pharmacy](#).

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	Research Responsibilities: - Design, plan and conduct laboratory research aligned with the NIHR BRC objectives. - Develop and optimise gene delivery systems, hydrogel biomaterials and tissue engineering approaches for bone regeneration. - Undertake mammalian cell culture, differentiation assays, molecular biology, microscopy and gene expression analyses. - Analyse and interpret experimental data, maintain accurate records and comply with data management plans. - Troubleshoot experiments and deliver project milestones independently and collaboratively.	70 %
2	Engagement, Communication and Continuation Responsibilities: - Prepare manuscripts, conference presentations and reports. - Work closely with collaborators across the School of Pharmacy and Nottingham University Hospitals NHS Trust.	20 %



	Contribute to grant development and engage professionally with clinical, academic and industrial partners.	
3	Teaching and supervision Support undergraduate and postgraduate practical teaching where appropriate and assist with the supervision and training of students and laboratory staff.	5%
4	Other: Contribute to laboratory organisation, reagent ordering, equipment maintenance, SOPs, risk assessments and Health & Safety compliance.	5%

Person specification

	Essential	Desirable
Skills	- PhD (or near completion) in gene delivery, biomaterials, tissue engineering, cell biology or a closely related discipline. - Experience of mammalian cell culture and cell differentiation assays. - Experience with molecular biology techniques including PCR, gene expression analysis and immunolabelling. - Experience planning and delivering independent experimental research. - Ability to analyse and interpret biological datasets and communicate findings effectively. - Evidence of scientific writing and dissemination appropriate to career stage. - Excellent organisational, communication and collaborative skills.	- Experience of non-viral gene delivery systems. - Experience with hydrogel biomaterials or tissue engineering scaffolds. - Experience with orthopaedic or musculoskeletal regenerative medicine. - Knowledge of translational regenerative medicine and clinically relevant tissue engineering models. - Experience working with clinical samples or multidisciplinary clinical collaborations.



Knowledge and experience	▪ Demonstrable knowledge of mammalian cell biology, tissue engineering and regenerative medicine. ▪ Experience of mammalian cell culture, including maintenance, expansion and differentiation of primary cells and/or established cell lines. ▪ Experience of molecular biology techniques relevant to gene delivery research, including PCR, qPCR, cloning and gene expression analysis. ▪ Knowledge of non-viral gene delivery technologies and nucleic acid delivery principles. ▪ Experience of designing, planning and executing independent experimental research, including troubleshooting and delivering project objectives to agreed deadlines. ▪ Experience of quantitative analysis of biological data and appropriate statistical methods. ▪ Knowledge of laboratory Health & Safety requirements, including preparation of Risk Assessments and Standard Operating Procedures. ▪ Evidence of producing high-quality research outputs appropriate to career stage, including peer-reviewed publications and conference presentations. ▪ Excellent written and verbal communication skills with the ability to communicate complex scientific concepts to multidisciplinary audiences. ▪ Ability to work effectively within multidisciplinary research teams and build productive collaborations with academic and clinical partners.	▪ Experience of hydrogel biomaterials and/or three-dimensional cell culture systems. ▪ Experience of developing or evaluating gene delivery systems for regenerative medicine applications. ▪ Knowledge of musculoskeletal biology, bone repair or orthopaedic tissue engineering. ▪ Experience with biomaterial scaffold fabrication, hydrogel characterisation or advanced biomaterial systems. ▪ Experience working with clinically derived human tissues or patient samples. ▪ Experience of fluorescence microscopy, immunohistochemistry and advanced imaging techniques. ▪ Experience of RNA sequencing, transcriptomics or bioinformatics analysis. ▪ Experience of animal models relevant to musculoskeletal regeneration. ▪ Knowledge of translational regenerative medicine, regulatory considerations and Good Laboratory Practice (GLP). ▪ Experience working collaboratively with NHS clinicians or industrial partners. ▪ Experience contributing to grant applications and managing collaborative research projects.
Qualifications, certification and	▪ Hold a PhD or equivalent in the life sciences or a closely related field	▪ Postdoctoral research experience in an area relevant to gene



training (relevant to role)		delivery, cell biology, or regenerative medicine
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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

