

RESEARCH ASSOCIATE in CELL CULTURE ENGINEERING

Haematopoietic and Immunotherapy Cell Technologies and Processes for Regenerative Medicine

Fixed Term to 31 December 2019

Job Ref: REQ17086

As part of the University's ongoing commitment to redeployment, please note that this vacancy may be withdrawn at any stage of the recruitment process if a suitable redeployee is identified.

School/Department summary

The project will be conducted within the Healthcare Engineering group. This group focuses on the manufacture and exploitation of current and next generation medical therapies, particularly in the field of Regenerative Medicine and Cell Based Therapies. The group is at the core of several nationally leading programmes developing the manufacturing science and bioprocessing for advanced cell based therapies, including an EPSRC Stratified Medicine research hub and EPSRC Doctoral Training Centre in Regenerative Medicine. The group is multidisciplinary, containing physical science, biological science and engineering experts who wish to work across disciplinary boundaries.

In recent years the group has developed a team working on in vitro cultured blood products from both adult and pluripotent stem cell sources. The work spans the development platforms, manufacturing scale processes, and control of biological proliferation and differentiation required to generate manufactured blood products. This project will have access to state of the art micro-bioreactor technology with advanced monitoring and control features. It will work at the interface of an EPSRC fellowship program on haematopoietic cell processing and a national multi-Centre programme focused on production of immunotherapy and T-Cell based products. It will specifically seek to increase our understanding of processing parameters (through development of appropriate process models) that need to be controlled to enable consistent and high quality production in a scalable system. We are open to appointing applicants from either a biological or engineering background who have the ability and motivation to acquire the multidisciplinary skills required for the role.

Job Description

Job Grade:

Specialist and Supporting Academic – Grade 6

Job Purpose

To develop scalable and controlled bio-processes, and underpinning technologies, for the manufacture of blood products from progenitor cells, with a focus on T-cell immunotherapies.

Job Duties

Research:

The role will include (but not be limited to):

- Identifying and understanding the key process steps, events, interactions and sources of variation in *in-vitro* haematopoietic and immunotherapy cell production from a biological and engineering perspective.
- Design and conduct research experiments in line with the above objectives.

- Research, develop and validate experimental methods for cell and cell-based product characterisation (particularly multi-parameter flow cytometry) and establish fitness for purpose for manufacturing and process development.
- Develop novel technological approaches for overcoming cell therapy manufacturing limitations
- Travel to industrial and academic collaborators' locations within the UK consortium to collaborate experimentally and to report on the progress of the project.
- Work as part of a project and university team and contribute to post-graduate student development and supervision
- Make presentations to industry and academia.
- Publish the outcomes of research in outlets of international standing.
- Engage in training programmes at the University (e.g. through Staff Development) that are consistent with their needs and aspirations and those of the School.
- To undertake such other duties as may be reasonably requested and that are commensurate with the nature and grade of the post.

Teaching:

Teaching is not the primary purpose of this post and teaching load will be small relative to the typical load of a member of academic staff in the School, but the Research Associate will be expected to contribute to taught programmes and student projects, at any level, if appropriate and if requested to do so.

Points To Note

The purpose of this job description is to indicate the general level of duties and responsibility of the post. The detailed duties may vary from time to time without changing the general character or level of responsibility entailed.

Special Conditions

All staff have a statutory responsibility to take reasonable care of themselves, others and the environment and to prevent harm by their acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Policy & Procedures.

All staff should hold a duty and commitment to observing the University's Equality & Diversity policy and procedures at all times. Duties must be carried out in accordance with relevant Equality & Diversity legislation and University policies/procedures.

Successful completion of probation will be dependent on attendance at the University's mandatory courses which include Respecting Diversity and, where appropriate, Recruitment and Selection.

Organisational Responsibility

Reports to Dr Rob Thomas, EPSRC Fellow (Biomanufacturing) and Reader in Manufacturing for Cell Based Therapies.

Person Specification

Your application will be reviewed against the essential and desirable criteria listed below. Applicants are strongly advised to explicitly state and evidence how they meet each of the essential (and desirable) criteria in their application. Stages of assessment are as follows:

- 1 – Application
- 2 – Test/Assessment Centre/Presentation
- 3 – Interview

Essential Criteria

Area	Criteria	Stage
Experience	Significant relevant engineering OR biological postgraduate research experience in an academic or industrial environment	1, 3
Skills and abilities	Ability to develop a multidisciplinary skill set, learning biological skills if from an engineering background OR engineering tools if from a biological background	1, 3
	Good laboratory and analytical skills	1, 3
	Ability to work independently and as part of a team	1, 3
	Self-motivated	1, 3
	Ability to write project reports and give presentations to large and small groups	1, 3
	Good IT skills and internet usage	1, 3
	Excellent interpersonal, communication and organisational skills	1, 3
	Ability to maintain confidentiality at all times	1, 3
Training	Evidence a good working knowledge of equal opportunities and understanding of diversity in the workplace	1, 3
Qualifications	Good honours degree in a biological or engineering discipline	1
	PhD in relevant discipline (bioprocessing, bioengineering, cell engineering, cell biology)	1
Other	Willingness to work in a Containment Level 2 cell culture laboratory	1, 3
	Willingness to occasionally participate in rotations of cell culture maintenance during weekends	1, 3
	Willingness to cross disciplinary boundaries	1, 3
	Willingness to travel to industrial and academic collaborators' sites within the UK	1, 3
	Commitment to observing the University's Equal Opportunities policy at all times	1, 3

Desirable Criteria

Area	Criteria	Stage
Experience	Experience in cell biology techniques and in cell and tissue culture using human cells or stem cells OR experience in appropriate engineering approaches	1, 3
	Experience particularly in human T-cell or other haematopoietic/immunotherapy lineage cell culture maintenance, differentiation and analysis	1, 3

	Experience of single cell analysis methods such as flow cytometry and handling high dimensional data	1, 3
	Knowledge and understanding of bio-process development methods and the principles underlying these techniques. In particular experience of statistical or mechanistic process modelling	1, 3
	Experience of presenting work at conferences	1, 3
Skills and abilities	Knowledge of relevant Health & Safety issues including biological safety techniques, practices and sterile procedures	1, 3
Qualifications	PhD in tissue engineering, regenerative medicine, or other biological or engineering discipline relevant to the role	1

Conditions of Service

The position is **full time** and **fixed term** until to 31 December 2019. Salary will be within the Specialist and Supporting Academic Grade 6 (£29,301 to £36,001 per annum), at a starting salary to be confirmed on offer of appointment.

The appointment will be subject to the University's normal Terms and Conditions of Employment for Academic and Related staff, details of which can be found [here](#).

The University is committed to enabling staff to maintain a healthy work-home balance and has a number of family-friendly policies which are available at <http://www.lboro.ac.uk/services/hr/a-z/family-leave-policy-and-procedure---page.html>.

We also offer an on-campus nursery with subsidised places, subsidised places at local holiday clubs and a childcare voucher scheme (further details are available at: <http://www.lboro.ac.uk/services/hr/a-z/childcare-information---page.html>)

In addition, the University is supportive, wherever possible, of flexible working arrangements. We also strive to create a culture that supports equality and celebrates diversity throughout the campus. The University holds a Bronze Athena SWAN award which recognises the importance of support for women at all stages of their academic career. For further information on Athena SWAN see <http://www.lboro.ac.uk/services/hr/athena-swan/>

Informal Enquiries

Informal enquiries are welcomed and should be made to Dr Rob Thomas by email at R.J.Thomas@lboro.ac.uk or by telephone on +44 (0)1509 227601.

Applications

The closing date for receipt of applications is **21 June 2017**.

Interviews will be held during the **week commencing 3 July 2017**.