



**UNIVERSITY OF LEEDS**

## **CANDIDATE BRIEF**

**Horizon Research Fellow, Faculty of Medicine and Health**



**Salary: Grade 7 (£33,797 – £40,322 p.a.)**

**Reference: MHLRM1130**

**Closing date: 21 April 2020**

**Available immediately on a fixed term basis for 27 months or until 31 December 2023 (whichever is sooner)**

# **Horizon Research Fellow**

## **School of Medicine**

### **Leeds Institute of Rheumatic & Musculoskeletal Medicine**

**Would you like to be involved in cutting edge research to develop novel solutions for smart resorbable bone implants for controllable and fast bone restoration, and to test a new generation acellular scaffold with bone-like architecture? Are you interested in acquiring and/or developing your skills to develop new tissue engineering solutions for in vitro reprogramming of adult stem cells for embedding into the smart implant?**

Applications are invited for a Postdoctoral Fellow position working with Prof Peter Giannoudis and Dr Elena Jones on the Horizon 2020 project “SBR – Smart Resorbable Bone” and a small industry funded project Greenbone. Based on the St. James’ Campus, you will co-ordinate projects related to several SBR Work Packages (WPs). More specifically you will be working on the WPs 6 with the aims to:

1. WP6, task 1: In vitro evaluation of bioactivity of immobilized liposomal/polymeric drug delivery systems (DDSs)
2. WP6, task 2: Implant modification with stem cells: to test colonization, proliferation and survival of mesenchymal stem cells (MSCs) on the implant materials.
3. WP6, task 3: Evaluation of biocompatibility/performance of modified implants with stem cells/bioactives.

You will also be responsible for delivering Greenbone project to assess the biological support that GreenBone scaffold can provide for MSCs and endothelial cells.

Reporting to Dr Jones, your work will be carried out in collaboration with consortium members based in Patras, Greece and Munich, Germany.

Capitalising on the infrastructure and samples collected through the Leeds Institute of Rheumatic and Musculoskeletal medicine based across St James’s University Hospital and LGI, you will generate primary MSC cells to be used by other consortium partners. You will develop and validate assays to assess the behaviour of MSCs on electrospun biocompatible scaffolds, as well as optimise the MSC’s uptake of several bioactive DDRs. In collaboration with partners in Greece and Germany, you will also develop and validate assays for the assessment of MSC functionality on bioactive



implants. In Greenbone project, you will be testing the attachment and growth of human bone marrow cells on GreenBone scaffold, as well as the endothelial cell-MSC interactions on the scaffold surface.

The post holder will also liaise with the research group, specifically dedicated to this project, and based in the School of Chemical and Process Engineering, as required.

## What does the role entail?

As a Postdoctoral Research Fellow, your main duties will include:

- Delivering SBR outputs to time and budget by conducting high-quality collaborative research, contributing to the development of the project and contributing your own ideas, under appropriate supervision and guidance;
- Delivering Greenbone outputs according to the schedule of work;
- Working independently to develop and enhance the project experimental plan, developing methods and techniques applicable to your own work and for widespread dissemination. Additionally, evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to own work;
- Making research initiatives and original contributions to the research programme, wherever possible, and to contribute freely to the team research environment in a manner conducive to the success of the research project as a whole;
- Communicating and providing information to academic supervisors;
- Attending and preparing reports for regular meetings with other members of the group to report progress, agree future work and exchange data/experience;
- Managing aspects of the project, taking responsibility for the day to day running of your areas of the project and co-ordinate work with other internal and external collaborators;
- Making and contributing to decisions on day-to-day matters that affect your own work and that of the team;
- Independently identifying additional external and internal resources to effectively deliver the project work;
- Identifying and taking steps to develop any potential intellectual property that may arise as a result of your research;
- Building internal and external contacts and participating in internal networks for the exchange of information and for future collaboration;



- Ensuring good progress is maintained and work is undertaken in a systematic way that is well documented so that data can be shared across the group;
- Training undergraduate and postgraduate students in relevant and developing laboratory techniques and co-supervise projects students working within the group;
- Preparing written papers for publication in journals with international standing and presentations to disseminate the research findings to both the academic and clinical communities and to the wider public at both national and international level leading to high quality publications in peer-reviewed journals, as appropriate;
- Working effectively and positively as required as a team player on a broad range of activities and related projects within the Institute to help achieve the broader strategic development of the aims and objectives of the Institute;
- Keeping abreast and maintaining a good working knowledge of relevant literature and current developments in the field of the project and to be able to interpret and present findings of literature searches and advise the research team appropriately regarding potential projects;
- Maintaining appropriate databases, keeping accurate written and computerised records and to ensure that these records are stored in a secure place, and to maintain confidentiality of all electronically stored personal data in line with the provisions of the GDPR;
- Identifying other research project opportunities and directions as they arise including assisting with drafting budgets and applications for potential research projects and grants;
- Managing research budgets and ensuring these are spent in line with the award, sponsors and University guidelines;
- Upholding and enhancing the internationally excellent reputation of the Institute and the independent network of contacts by building collaborations with other academics, external stakeholders and users such as clinicians;
- Working within and applying the standard operating procedures, health and safety regulations and quality assurance procedures of both the Institute and the School and be responsible for the health and safety management of relevant projects and research work;
- Willingness to travel to meet with/work with collaborators in Greece and Germany.



## Teaching

Although no formal teaching requirements will be made of fellows, they may be expected to share in these tasks on an occasional basis, contributing to the teaching activities of the group.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

## What will you bring to the role?

As a Postdoctoral Research Fellow you will have:

- A first degree and PhD (or passed PhD with minor corrections at the point of application) in an adult stem cell biology subject or a closely allied discipline;
- Previous experience of managing a project in a research field including demonstrable evidence of successfully setting and delivering project objectives within strict time limitations;
- Significant experience in MSC culture and characterisation including experience in colony forming assays, holographic imaging, MSC phenotyping using flow cytometry, MSC cell sorting, MSC differentiation assays, qPCR using integrated fluid circuits and imaging techniques on 3D scaffolds including SEM;
- Prior experience of working with 3D scaffolds for musculoskeletal tissue regeneration;
- Prior experience of formulating and characterizing nanoparticulate DDSs including liposomes;
- Experience in assay development and validation;
- Evidence of having developed independent research skills, the ability to work independently and to organise and prioritise own work (and those of others if appropriate) and maintaining records;
- Evidence of having developed national and international collaborations;
- Effective interpersonal and communication skills, including previous experience presenting to an audience and writing detailed reports and preparing data;
- Demonstrated the ability to work as part of a multidisciplinary team involving, technicians, clinicians, students and research personnel as well as being independent if required;



- Willingness to work flexibly, where necessary, to fulfil the needs of the research project;
- Willingness to travel within the UK and internationally, particularly able to meet/work with European collaborators and spend periods working in their labs;
- Experience in managing research grant budgets;
- A working knowledge of health and safety issues within the laboratory setting.

You may also have:

- A developing publication and grant application record;
- Previous experience with biomaterials including those based on collagen, hyaluronic acid and chitosan for tissue engineering scaffolds for musculoskeletal tissue regeneration;
- Experience in writing COSHH and GM risk assessments, and Standard Operating Procedures (SOPs) for good laboratory practice.

## How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

## Contact information

To explore the post further or for any queries you may have, please contact:

**Dr Elena Jones, Associate Professor (Non-Clinical),**

Tel: +44 (0)113 2065647, Email: [e.jones@leeds.ac.uk](mailto:e.jones@leeds.ac.uk)

or

**Professor Peter Giannoudis, Professor of Orthopaedic Surgery**

Tel + 44 (0) 113 0113-20-67068, Email: [P.Giannoudis@leeds.ac.uk](mailto:P.Giannoudis@leeds.ac.uk).

## Additional information

Find out more about the [Faculty of Medicine and Health](#).

Find out more about [Athena Swan](#) in the Faculty of Medicine and Health.



Find out more about our [Institute](#).

Find out more about our [Research and associated facilities](#).

### **Working at Leeds**

You can find out more about our generous benefits package and more about what it is like to work at the University and live in the Leeds area in our [Working at Leeds](#) information.

### **Candidates with disabilities**

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found in our [Accessibility](#) information or by getting in touch with us at [disclosure@leeds.ac.uk](mailto:disclosure@leeds.ac.uk).

## **Criminal record information**

### **Rehabilitation of Offenders Act 1974**

A criminal record check is not required for this position, however, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be, in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our [Criminal Records information](#).

