



University of
Strathclyde
Glasgow



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Postdoctoral Research Associate in 3D Bioprinting and Tissue Engineering

Department	Biomedical Engineering (www.strath.ac.uk/engineering/biomedicalengineering/)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	Research	Reference No	605069
Reports To	Professor Will Shu	Grade:	7
Salary Range:	£36,024 - £44,263	Contract Type:	Fixed Term (12 months)
FTE	1 (35 hours/week)	Closing Date	03/04/2024

Job Advert

Biomedical Engineer-PDRA in 3D Bioprinting and Tissue Engineering

The Department of Biomedical Engineering is looking to employ either a postdoctoral researcher or experienced industrial scientist/engineer to work on the development of hydrogel biomaterials, biofabrication and tissue engineered knee joints. The PDRA will participate in activities to support the efforts of an Innovate UK funded project, working on the development of hydrogel biomaterials, biofabrication and tissue engineered knee joints.

Job Description

Brief Outline of Job:

The Department of Biomedical Engineering is looking to employ either a postdoctoral researcher or experienced industrial scientist/engineer to work on the development of hydrogel biomaterials, biofabrication and tissue engineered knee joints. The PDRA will participate in activities to support the efforts of an Innovate UK funded project, working on the development of hydrogel biomaterials, biofabrication and tissue engineered knee joints.

The Research Associate will apply their knowledge of biology, engineering and biomedical standards to convert scientific and technical innovation into clinical applications. The candidate will participate in the engineering and technical development of new tissue engineered constructs by carrying out design, development, testing and producing appropriate documentation.

As a Research Associate, under the general guidance of a research leader, you will develop research objectives and proposals, play a lead role in relation to a specific project/s or part of a broader project, conduct individual and/or collaborative research, contribute to the development of new research methods, identify sources of funding, and contribute to the securing of funds for research, including drafting grant proposals and planning for future proposals. You will write up research work for publication, individually or in collaboration with colleagues, and disseminate the results via peer reviewed journal publications and presentation at conferences. You will join external networks to share information and ideas, inform the development of research objectives and to identify potential sources of funding. You will collaborate with colleagues to ensure that research advances inform departmental teaching effort, and you will collaborate with colleagues on the development of knowledge exchange activities by, for example, participating in initiatives which establish research links with industry and influence public policy and the professions. You will supervise student projects, provide advice to students and contribute to teaching as required by, for example, running tutorials and supervising practical work. You will contribute in a developing capacity to Department/School, Faculty and/or University administrative and management functions and committees and engage in continuous professional development.

To be considered for the role, you will be educated to a minimum of PhD level in an appropriate discipline, or have significant relevant experience in addition to a relevant degree. You will have sufficient breadth or depth of knowledge in bioprinting and a developing ability to conduct individual research work, to disseminate results and to prepare research proposals. You will have an ability to plan and organise your own workload effectively and an ability to work within a team environment. You will have excellent interpersonal and communication skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences.

Whilst not essential for the role, applications are welcomed from candidates with: relevant work experience, membership of relevant Chartered/professional bodies (including the Higher Education Academy), experience of relevant student supervision and teaching activities, and/or experience of knowledge exchange related activities.

Main Activities/Responsibilities:

1.	The research and development of bioprinting techniques to produce scaffolds and tissues
2.	The upgrading and development of bioprinters and printing processes
3.	The design, production and use of novel bioreactors
4.	The mechanical and biological characterisation of bioprinted materials
5.	Delivering the agreed project plan and adhering to all key milestones
6.	Producing regular reports on progress against the project plan
7.	Identifying potential issues and putting forward solutions and recommendations
8.	Producing appropriate documentation for regulatory and certified bodies
9.	Producing appropriate documentation for journal publications and IP protection such as patents
10.	Day to day responsibility of running the lab

Person Specification

Educational and/or Professional Qualifications

(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)

E1 PhD or equivalent in Mechanical, Biomedical or Design Engineering or other relevant subject.

Experience

E2 Sufficient breadth or depth of knowledge in 3D bioprinting of hydrogels.

E3 Experience of working with material characterisation, both engineering and biological

D1 Strong biological knowledge of bone and cartilage tissues

D2 Experience of relevant student supervision and teaching activities.

D3 Experience of knowledge exchange related activities.

Job Related Skills and Achievements

E4 Extensive knowledge of additive manufacturing particularly 3D printing and 3D bioprinting tools, methods and techniques

E5 Excellent oral and written communication skills with the ability to communicate at all levels. Ability to prepare and present comprehensive reports, briefs, procedures, recommendations and presentations for consideration by various internal and external bodies

E6 Good IT skills

E7 Proficiency with Solidworks / ProE / AutoCAD or equivalent

E8 Developing ability to conduct individual research work, to disseminate results and to prepare research proposals.

E9 Exceptional problem-solving skills with a high level of adaptability and ability to synthesise and apply a wide range of complex technical information across disciplinary boundaries

D4 Excellent project management, time management and organisational skills with the ability to plan, schedule, coordinate and problem solve effectively

E10 Ability to work within a team environment.

Personal Attributes

E11 Excellent interpersonal and communication skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences.

Other Relevant Factors

E12 Eligible to both live and work in the UK

D5 Full driving licence

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted before interview without further permission, unless you indicate that you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job. Applicants should also complete the Equal Opportunities Monitoring Form.

Other Information

Further information on the application process and working at Strathclyde can be found on our website (<http://www.strath.ac.uk/hr/workforus>).

Informal enquiries about the post can be directed to Will Shu, Professor (will.shu@strath.ac.uk).

Conditions of Employment

Conditions of employment relating to the Research staff category can be found at: [Conditions of Employment](#).

Rewards and Benefits

Our staff have access to a wide range of outstanding benefits that include financial rewards, family friendly and wellbeing benefits and career development opportunities, details of which can be found [here](#).

Probation

Where applicable, the successful applicant will be required to serve a 9 month probationary period.

Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from [Payroll and Pensions](#).

Relocation

Where applicable, the University offers a relocation package to support new employees who meet the eligibility criteria. The relocation package is offered as a contribution towards costs incurred, and is designed to be flexible, allowing staff to use the financial support available in the way that will be most helpful to them. Further details are outlined in the Relocation Policy.

Equality and Diversity

The University of Strathclyde is a socially progressive institution that strives to ensure equality of opportunity and celebrates the diversity of its student and staff community. Strathclyde is people-oriented and collaborative, offering a supportive and flexible working culture with a deep commitment to our equality, diversity and inclusion charters, initiatives, groups and networks.

We strongly encourage applications from Black, Asian and minority ethnicity, women, LGBT+, and disabled candidates and candidates from lower socio-economic groups and care-experienced backgrounds.

University Values

The University's Values capture what we're all about: who we are, what we believe in and what we stand for. [Our Values](#) have been derived from how we act and how we expect to be treated as part of Strathclyde.

