



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Manufacturing Processes, Faculty of Engineering



Salary: Grade 7 (£32,548 – £38,833 p.a.)

Reference: ENGME1117

Closing date: 17 December 2017

Fixed-term until 30 June 2018

Research Fellow in Manufacturing Processes School of Mechanical Engineering

Are you an experienced and ambitious researcher looking for your next challenge? Are you interested in new manufacturing processes? Do you want to further your career in one of the UK's leading research intensive Universities?

This EPSRC funded project concerns the research of a new manufacturing process to create soft robotic structures. The key enabling technology for this will be the novel manufacturing apparatus that has already been created and is operational. Using this apparatus, this Research Fellow position will explore the fundamental elements for engineering and fabricating soft robotic structures (such as electro-active-polymer constructs) that are capable of shape change and/or exerting physical force.

You will work on refining and utilising this apparatus such that it is capable of the required material compatibility, compositional variation, and scales and accuracy of deposition onto alternative platform geometries and surfaces. This will include the design and engineering of new or adapted components, systems and hardware to enable effective operation. It will then involve conducting experimentation with the manufacturing process to fabricate soft robotic articles and evaluate their performance. You will work alongside an existing Research Fellow, the academic leader, a PhD researcher, and technical staff.

This research will be undertaken within the Future Manufacturing Processes research group who have extensive experience of designing and building, and conducting research with, unique digitally-driven machinery. You will be integrated into our wider research team and benefit from specialist technical support. The experimental work will be conducted in our new state-of-the-art research laboratory.

Holding a PhD in engineering or a closely allied discipline, you will have a strong background in the development and use of apparatus and instrumentation to fabricate specialist devices. You will also have an enthusiastic, creative approach to your research and thrive on working with a team.

This is currently a fixed term position until 30 June 2018, but there is the possibility of contract continuation beyond this in conjunction with our wider portfolio of research.



What does the role entail?

As a Research Fellow, your main duties will include:

- Conducting research into the development and operation of the manufacturing process, and conducting technical research on materials, components and other parts as necessary;
- Design and engineering of new or adapted components, systems and hardware to enable the fabrication of the envisaged soft robotic components;
- Study and benchmark elements including material compatibility, compositional changes, and scales and accuracy of deposition onto alternative platform geometries and surfaces;
- Benchmarking alternative manufacturing processes as well as likely future technology developments;
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;
- Communicating or presenting research results through publication or other recognised forms of output;
- Preparing papers for publication in leading international journals and independently writing reports;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development and aiding other colleagues as appropriate;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects in areas relevant to the project.

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 Research Fellow you will have:

- A PhD (or very close to completion) in engineering or a closely allied discipline;
- A strong background in, and evidence of, the use and modification of specialised apparatus and instrumentation;
- A strong background of, and evidence of, prior work in creating bespoke and sometimes complex devices;
- Good time management and planning skills, with the ability to meet tight deadlines and work effectively under pressure;
- Excellent written and verbal communication skills including presentation skills;
- Proven ability to manage competing demands effectively, responsibly and without close support;
- A proven ability to work well both individually and in a team;
- A commitment to your own continuous professional development.

You may also have:

- A proven track record of peer-reviewed publications in high impact factor journals;
- Experience of manufacturing processes;
- Experience of soft robotics.

How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information page. 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:

[Professor Russell Harris](#), Future Manufacturing Processes Research Group

Tel: +44 (0)113 343 2155

Email: r.harris@leeds.ac.uk



Additional information

Faculty and School Information

Further information is available on the research and teaching activities of the [Faculty of Engineering](#) and the [School of Mechanical Engineering](#).

A diverse workforce

The Faculty of Engineering is proud to have been awarded the [Athena Swan Silver Award](#) from the Equality Challenge Unit, the national body that promotes equality in the higher education sector. Our [equality and inclusion webpage](#) provides more information.

Working at Leeds

Find out more about the benefits of working at the University and what it's like to live and work in the Leeds area on our [Working at Leeds](#) information page.

Candidates with disabilities

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our [Accessibility](#) information page or by getting in touch with us at 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 page

