

# Research & Development Engineer – Incremental Technologies

Department	Advanced Forming Research Centre, Department of Design, Manufacture and Engineering Management ( <a href="http://www.strath.ac.uk/dmem/">www.strath.ac.uk/dmem/</a> )		
Faculty	Faculty of Engineering ( <a href="http://www.strath.ac.uk/engineering/">www.strath.ac.uk/engineering/</a> )		
Staff Category	Knowledge Exchange	Reference No	457001
Reports To	Team Lead through the Incremental Forming Theme Lead	Grade:	7
Salary Range:	£33,309 - £40,927	Contract Type:	Open Contract
FTE:	1	Closing Date	Tuesday, 12 July 2022

## Job Advert

The University of Strathclyde in Glasgow possesses a large internationally rated Engineering Faculty with a proud history of successful joint ventures with industrial and enterprise partners. As part of the University's strategic development the Advanced Forming Research Centre (AFRC) has been established near Glasgow's International Airport. The AFRC is the embodiment of a £30 million collaborative investment by Industrial, Academic and Government partners seeking to establish a world-leading research facility for forging and forming technologies.

The AFRC is seeking to appoint an experienced R&D Engineer to lead and deliver high value research and knowledge exchange programmes related to metal forging through applied experimental research activity and introduce the outcomes into manufacturing environments. This will involve the candidate working between the AFRC and its industrial partners and there will be a strong emphasis on knowledge exchange and process improvement.

This post will be based within the Forging & Incremental Technologies team, reporting directly to the Incremental Forming Theme Lead. Incremental manufacturing technologies are key strategic areas of development for the AFRC, the AFRC has invested significantly in this area and with the drive from UK and Scottish government for low cost, more cost-efficient product solutions there is significant opportunity to secure funding and commercial work in this area. Over the past six months there has been a significant interest and discussions with multiple AFRC Member companies with regard to Core, CoreD & DIRF projects relating to Forging & Incremental Technologies.

As an R&D Engineer you will work across a number of projects and contribute to the development of the technical capability in the AFRC.

To achieve the above the R&D Engineer will require research and/or industrial experience in at least two of the following technical areas:

- Knowledge and experience of process improvement/optimisation strategies for incremental forming and forging processes, including pre and post forming operations (e.g. pre-forming, heat treatment strategies, automation, etching, polishing);
- Good understanding of material deformation behavior during forming operations including tool design and equipment operation;
- A broad knowledge of forming and forging processes related to metallic materials and alloys, especially those relevant to the aerospace and automotive sector (e.g. Steels, Nickel based superalloys, Titanium alloys and Aluminium alloys);

- Knowledge of a range of process modeling approaches for verification and validation of forging process parameters and tooling designs;

### **The Opportunity**

We are looking to appoint a candidate who is interested in helping shape the future of manufacturing, working with a range of innovative industrial partners and academic experts, new and emerging technologies and challenging manufacturing in the UK and globally. We would love to hear from you, if you have an established track record in providing engineering solutions in an industrial context, a good first degree and substantial experience or PhD qualification, and experience and expertise in a forging and forming technology area.

You'll be rewarded with:

- The opportunity to work with a variety of innovative industry partners and leading academics.
- The opportunity to work with cutting edge and bold technologies.
- Excellent employee benefits and opportunities for career development.

## **Job Description**

### **Brief Outline of Job:**

The Research and Development Engineer will support AFRC research programmes and the development and operation of manufacturing capability, including research and development with partners and customers. In particular, the post holder will be expected to lead and contribute to industrial research programmes with an Incremental forming technology focus and deliver solutions to industrial partners.

### **Main Activities/Responsibilities:**

1.	Conduct industrial led collaborative engineering research, including determining appropriate research methods and contributing to the development of new research methods.
2.	Work as part of a project team to deliver against specific requirements of industrial-led projects.
3.	Enhance the AFRC manufacturing related capability by proposing improvements based on estimated future requirements and research needs.
4.	Identify sources of funding and contribute to the securing of funds for research and development activities, including drafting grant proposals and planning for future proposals.
5.	Build contacts internally and externally, and participate in networks for the exchange of information, form relationships with customers, suppliers and colleagues for future collaboration.
6.	Write up reports, individually or in collaboration with colleagues, for external organisations, and further write up findings for additional dissemination (e.g. professional publications or peer review journal publication) as appropriate.
7.	Assist in the training and development of staff and external clients in manufacturing engineering methods and processes.
8.	Contribute to collaborative decision making with colleagues on academic/engineering content in areas of research.
9.	Contribute to the overall AFRC growth by working as an integral part of the AFRC team effort, inputting to the research programme and capability development, as necessary, to meet strategic objectives.

## **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)

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| E1 | Good first degree (minimum class 2:1) in a relevant engineering discipline, e.g. mechanical engineering, materials or manufacturing. |
| E2 | Substantial relevant work experience or a PhD in a relevant engineering discipline.  |
| D1 | Chartered Engineer/Scientist, Member of professional body in an appropriate discipline.  |

### **Experience**

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| E3 | Sufficient breadth or depth of knowledge and experience in metal forming and forging technology. |
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E4	Ability to conduct research and development projects, work directly and independently with clients, and to prepare new research and development proposals and work with the wider delivery team.
E5	Experience working at a similar level in a research and development environment or equivalent
E6	Knowledge and experience of working with advanced manufacturing technology
D2	First-hand experience of addressing manufacturing research challenges within an industrial or academic environment
<b>Job Related Skills and Achievements</b>	
E7	Evidence of contribution to the successful delivery of research within an academic or industrial environment.
E8	An ability to plan and organise own workload effectively with general supervision from senior colleagues.
E9	Experience in project planning and delivery.
D3	Experience of research and development related activities.
<b>Personal Attributes</b>	
E10	Excellent written and verbal communication skills, with an ability to interact with a range of stakeholders in both industry and academia.
E11	An ability to disseminate results and to contribute to research and commercial proposals.
E12	An ability to work as part of a team, through participation in collaborative projects, and developing evidence of leadership.
<b>Other Relevant Factors</b>	
E13	An ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences

## Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted 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 May Hicks, Acting Theme Lead, Incremental Technologies ([may.hicks@strath.ac.uk](mailto:may.hicks@strath.ac.uk)).

### Conditions of Employment

Conditions of employment relating to Knowledge Exchange Staff can be found here: [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.

### Interviews

Formal interviews for this post are anticipated to be held on w/c 18 July 2022.

## 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.

