Technical Specialist - Forging

Department	Advanced Forming Research Centre (AFRC) (www.afrc.org.uk/), Department of Design, Manufacture and Engineering Management (www.strath.ac.uk/dmem/)		
Directorate	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	Technical Services	Reference No	315529
Reports To	Forging & Incremental Technologies Team Lead	Grade:	8
Salary Range:	£41526 - £51034	Contract Type:	Open Contract
FTE	1	Closing Date	30/10/2020

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. The Advanced Forming Research Centre (AFRC), based at Inchinnan near Glasgow's International Airport, has now been operational for ten years during which time Industrial, Academic and Government partners have worked together to establish a world leading research facility for the shaping of materials. The centre works closely with major industrial companies including Rolls-Royce and Boeing, and since 2011 it has been a part of the UK High Value Manufacturing (HVM) Catapult. Since its launch the AFRC has achieved a rate of growth and industrial engagement which has surpassed expectations. As well as consolidating its primary strength in forming and forging technology, the centre will become part of the National Manufacturing Institute, Scotland (NMIS) which will act as a focal point for high value manufacturing in Scotland.

The AFRC has some unique capabilities in the area of forging research, and is also in the process of establishing 'Future Forge', a high integrity hot forging research environment aimed at establishing and demonstrating a digital future for hot forging. As such this physical capability will comprise open-die, closed-die, and isothermal forming capability as well as state of the art instrumentation and process control, consistent with Industry 4.0. Its use is primarily targeted at the highest value forged component applications such as aerospace discs, pressure vessels for steam generating equipment, and subsea installations. The investment is being made based on a strategic vision for a digital future for forging centred around improved predictive capability and process control. The centre will work with its many industrial partners including Rolls-Royce, Boeing, Aubert & Duval, Timet, Bifrangi, DMG Mori, and Virtalis to ensure the delivery of the vision. As part of the High Value Manufacturing Catapult the AFRC will also drive for the creation of relevant industrial and supply chain development within the UK.

Reporting to the Forging & Incremental Technologies Team Lead, the AFRC is seeking to recruit a Technical Specialist for Forging, a unique role which will focus on developing technical and practical forging expertise for the centre. In addition to leading the final stages of the FutureForge installation and commissioning, you will have overall responsibility for developing the centre's practical aspects of forging operations within the AFRC, including the development of proactive approaches to providing support to the forging industry. In addition, the Technical Specialist will work with the AFRC leadership team to provide expertise and input to all technical aspects of forging equipment specification and installation. You will play a key role in offering expert technical support to technical, research and knowledge exchange staff, and work very closely with AFRC and campus based colleagues who are developing the research agenda and vision for the future of forging.

With extensive industrial experience of high value (open die, closed die and or isothermal) forging, and/or educated to PhD level in an appropriate discipline, with an excellent appreciation of the practicalities of forging established through other means, you will have an established track record in forging and a network of contacts to go alongside it. You will have in-depth knowledge and sufficient direct experience of a range of forging processes, manufacturing systems and manufacturing capability improvement. You will also have an active interest in the future of manufacturing technology and insight into associated systems. You will have a belief in the transformational potential from digitalisation and modelling technology and a willingness to develop expertise in these areas. You will have excellent communication and interpersonal skills, capability of presenting to and interacting with a range of stakeholders from industry and academia both nationally and internationally. The successful candidate for this unique role in UK forging will expect to become nationally recognised as a specialist in the practicalities of forging technologies. You will

have the ability to support, guide and develop forging Technicians, Manufacturing Engineers and Researchers, with a proven track record in staff development through formal apprenticeship or mentoring schemes.

Job Description

Brief Outline of Job:

The Technical Specialist – Forging will be recognised as the technical lead for all practical aspects of forging operations within the AFRC. They will lead and support the operation of the AFRC's forging equipment across a range of research and development projects, providing expert guidance to manufacturing and technicians and knowledge exchange staff working within the projects. They will develop the centre's technical capability on forging and build the centre's portfolio of practical knowledge of forging and its associated technology in order to build a world-leading community of forging experts. The postholder will provide expertise and input to all technical aspects of forging equipment specification and installation – starting with the completion of the £18m FutureForge programme. The Technical Specialist – Forging will be the interface with industry for all practical forging operations within the AFRC and facilitate the transfer of industrial knowledge between R&D teams, technical staff and customers.

Main Activities/Responsibilities:

1.	Operate as technical specialist for all major forging installation and infrastructure projects in AFRC, starting with completion and next stage development of the £18m FutureForge programme.
2.	Develop the centre's technical proposition on forging equipment, including the development of proactive approaches to providing support to the forging industry.
3.	Build the centre's portfolio of practical knowledge of forging and its associated technology, and contribute expertise and guidance to industrial knowledge exchange activity in forging.
4.	Provide highly technical, specialist advice and recommendations to senior management and staff within the department
5.	Engage with technical staff to ensure that equipment is operational and properly maintained, within established Health and Safety procedures and advise as required on Health & Safety aspects of forging.
6.	Responsible for training and development of others in practical forging methods and operations, including identifying training needs and providing formal and informal training.
7.	Act as the interface with industry for practical forging operations within the AFRC and facilitate the transfer of industrial knowledge between R&D teams, technical staff and customers.
8.	Within the forging technical function, identify additional service/system requirements or shortfalls and coordinate and/or design the delivery of innovative solutions to maximise service quality, efficiency and continuity
9.	Under HOD, ensure satisfactory legal compliance within forging technical areas, keeping abreast of relevant legislation and ensuring legislative compliance.
10.	Work with colleagues and partners to identify future research and industry needs in forging, and how these requirements will be met.
11.	Respond to industrial enquiries by providing expertise on practical forging aspects for the preparation of statements of work, quotations and funding applications for forging work.
12.	Maintain professional and technical knowledge by attending and presenting at educational workshops and conferences; establishing personal networks; and participating in professional societies.

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	Educated to Degree level (or equivalent) or Served an engineering or technical apprenticeship (or equivalent)
D1	Membership of a relevant Professional body e.g. IMechE or IOM3.

Experience

E2	Significant industrial experience at multiple levels within manufacturing organisations including at a senior technical level.
E3	Extensive industrial experience in high integrity (open die, closed die or isothermal) forging.
E4	Extensive industrial experience of both open and closed die forging and understanding of the effects of forging on material microstructure and subsequent properties.
E5	Knowledge and experience of the operation of different types of forge e.g. drop hammers, counterblow hammers, hydraulic and screw presses, including where and why they are used.

E6	Strong technical knowledge and problem-solving skills in either open die, isothermal or closed die forging of ferrous and non-ferrous alloys.
E7	Significant first-hand experience of providing technical services and expertise to multiple customers across a range of forged products.
E8	Experience of delivering major equipment installation projects
E9	Experience of interacting with a range of customers, suppliers and sub-contractors to deliver complex high-budget projects
E10	Experience of industrial project management with demonstrable experience in delivering major forging development projects
E11	A track record of securing industrial-lead funding for forging equipment.
E12	A proven track record in staff development through formal apprenticeship or mentoring schemes.
E13	Knowledge and experience of current legislation and health and safety requirements within a forging environment
Job Related Skills and Achievements	
E14	Understanding of forging related tooling materials, lubrication and tool coatings and the factors affecting the choice of these
E15	A strong reputation for expertise in forging and associated technologies
E16	Adept at managing and mitigating risk and have prior experience of new technology industrialisation.
E17	Ability to deliver on time, to budget and to meet customer requirements
E18	Knowledge of modelling techniques (e.g. Finite Element) supporting the development of forging processes
Personal Attributes	
E19	An excellent team player, with good interpersonal skills
E20	Excellent verbal and written communication skills with the ability to clearly and coherently convey complex concepts to a variety of audiences
E21	Understands the complexity of translating R&D into viable industrial solutions.
E22	Has experience in forming and maintaining extensive networks for knowledge sharing and industrial best practice.

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 Dr Alastair Conway, Forging & Incremental Technologies Team Lead (a.p.conway@strath.ac.uk).

Conditions of Employment

Conditions of employment relating to the Knowledge Exchange 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.

Pre-employment health screening

An offer of appointment will be subject to a medical assessment by Occupational Health. An individual who accepts an offer of employment must complete a confidential medical questionnaire and forward it to the Occupational Health Nurse within 5 days of receipt. If further information is required the individual may be contacted by the OHN or a Medical Advisor and a

personal appointment with the individual may be arranged. An unconditional contract of employment will not be issued until Human Resources receives confirmation that applicant is fit to undertake the duties of the post.

Probation

Where applicable, the successful applicant will be required to serve a 12 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

We value diversity and welcome applications from all sections of the community.

The University currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

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.