

# Technician - Residual Stress Measurement Lab

Department	National Manufacturing Institute Scotland (NMIS) ( <a href="https://www.nmis.scot/">https://www.nmis.scot/</a> )		
Faculty	Faculty of Engineering ( <a href="http://www.strath.ac.uk/engineering/">www.strath.ac.uk/engineering/</a> )		
Staff Category	Technical Services	Reference No	409497
Reports To	Residual Stress Theme Lead	Grade:	6
Salary Range:	£28756 - £32344	Contract Type:	Open Contract
FTE	1 (35 hours/week)	Closing Date	13/12/2021

## 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 National Manufacturing Institute Scotland has been established.

The National Manufacturing Institute Scotland (NMIS) is a bold and ambitious industry-centred project to create an international centre of advanced manufacturing expertise and excellence where industry, academia and public-sector support agencies work together to transform skills, productivity, and innovation, making Scotland and the UK a global leader in advanced manufacturing.

The Advanced Forming Research Centre (AFRC), encompassed within NMIS, situated at Inchinnan near Glasgow's International Airport, is a world leading research facility for forging and forming technologies. The AFRC is seeking to appoint a Laboratory Technician to support the operation of specialised equipment within its Residual Stress Measurement Laboratory. Recently the Centre has invested over £1m in residual stress measurement equipment and is rapidly developing a team who specialise in this area. You will be primarily responsible for the set-up, operation and maintenance of the existing equipment used for delivering industrial and academic research programmes on residual stress and materials characterisations related to forging and forming of metallic materials and alloys.

To be considered for this role, you will be educated to a minimum of HNC level, or equivalent; or with relevant work experience, preferably with metallic materials and alloys, and you will have an interest in manufacturing processes in an area relevant to the AFRC. You will have knowledge and experience of undertaking experimental activities as well as reporting and interpreting data and results. You will have excellent troubleshooting skills, including a methodical approach to solving complex problems, with limited guidance. You will have an ability to work autonomously, prioritising and coordinating your own workload and making decisions with minimum supervision in order to meet project deadlines. You will have the ability to work as part of a multi-disciplinary team.

Previous experiences of measuring residual stress with one of the destructive (e.g. hole-drilling) or non-destructive (e.g. XRD) techniques, or experience of materials characterisation, are highly desirable.

## Job Description

### Brief Outline of Job:

Reporting through the Residual Stress Theme Lead and the Materials & Residual Stress Team Lead, you will be responsible for supporting the AFRC laboratory activities in relation to delivering industrial and academic research programmes. The role will be focussed on the operation of the AFRC's equipment for residual stress measurement, materials characterisations and related manufacturing and research activities.

## Main Activities/Responsibilities:

1.	Set, prepare and operate equipment used for residual stress measurement including X-Ray Diffraction (XRD) system, hole drilling machines, digital image correlation (DIC) system, ultrasonic residual stress measurement system, and coordinate measuring machine (CMM)
2.	Carry out tests and experiments according to guidelines, and record, analyse and provide results in a relevant manner to meet industrial and academic research programmes.
3.	Ensure all health and safety aspects are addressed within the laboratory area, including identification, containment and disposal of hazardous waste.
4.	Oversee the activity of other AFRC staff while they are carrying out work within the workshop area. Ensure health and safety regulations are adhered to and advise users accordingly.
5.	Train AFRC staff in relevant laboratory techniques.
6.	Undertake other appropriate duties as requested i.e. Materials Characterisations, CAD drafting and design work.
7.	Work with the AFRC engineering team, research staff, industrial partners and others to ensure appropriate laboratory support for research programmes is provided.
8.	Prepare and produce risk assessments, produce and complete Planned Preventive Maintenance (PPM) records for lab equipment.
9.	Maintain Lab accreditation status (ISO9001 & ISO17025) by ensuring adherence to procedures and the preparation and participation in audits.
10.	Maintaining stock records and processing relevant purchase orders and invoices.

## 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 Minimum of HNC level in a relevant subject or equivalent relevant experience

D1 Completed an apprenticeship in engineering or manufacturing field

### Experience

E2 Experience of working autonomously and coordinating own workload to meet project deadlines, with minimum supervision

E3 Experience of using initiative and making decisions with limited guidance from a superior

D2 Experience of materials characterization or residual stress measurement in metallic materials and alloys

### Job Related Skills and Achievements

E4 Significant knowledge and expertise in managing and maintaining laboratory for measurement and testing

D3 An ability to manage, operate and maintain a workshop environment

E5 Excellent communication and interpersonal skills, with an ability to interact with a range of stakeholders, from industry and academia

E6 An ability to work conscientiously according to standard specifications

E7 An understanding of Health and Safety regulations and procedures

D4 Expertise in metrology and component's dimensional measurements

D5 Expertise in non-destructive evaluation (ultrasonic)

D4 Ability to co-ordinate and oversee work of others and ability to train staff in relevant techniques

### Personal Attributes

E8 An ability to work independently and as part of a team, through participation in collaborative projects.

E9 Hard working and self-driven, with a positive attitude to continuous improvement, e.g. 5S, Lean.

## 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 Dr David Easton, Residual Stress Theme Lead ([david.easton@strath.ac.uk](mailto:david.easton@strath.ac.uk)).

### Conditions of Employment

Conditions of employment relating to the Technical Services 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

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 gender equality in academia across all academic disciplines and professional and support functions.

### 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.

