

# Experimental Officer

Department	Mechanical and Aerospace Engineering ( <a href="http://www.strath.ac.uk/mae/">www.strath.ac.uk/mae/</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	145151
Reports To	The Head of Department, through the Director of the Advanced Materials Research Laboratory (AMRL)	Grade:	7
Salary Range:	£31604 - £38833	Contract Type:	Open Contract
FTE:	1 (35 hours/week)	Closing Date	Tuesday, 21 August 2018

## Job Advert

The Advanced Materials Research Laboratory (AMRL), is a £4M University/Faculty co-investment in state of the art materials research equipment located in two high quality laboratory spaces in the Faculty of Engineering. The AMRL (launched in June 2011) is a leading laboratory and testing centre that offers a vast array of opportunities for standout research and knowledge exchange in materials engineering and science, it provides a hub for multidisciplinary research, with expertise broadening from nano-scale through to full-scale component testing. With capabilities for microstructural, compositional and thermal analyses, and mechanical testing, the AMRL work ranges from identifying the relationship between manufacturing processes and materials' microstructure and their properties, to investigating materials' degradation behaviours or benchmarking the performance of novel material solutions against established methods. The services that the AMRL offers vary from consultancy to commercial clients across all sectors of engineering to partnering with government and academic institutions in multidisciplinary research projects. In all cases, it is committed to playing a key role in the delivery of collaborative research and exploitation of new knowledge and skills.

The AMRL is currently expanding its portfolio of clients and seeks the support of an experienced Experimental Officer who, alongside managing the effective engagement and usage of the AMRL facilities with the academic and external research and development communities, will undertake specific knowledge exchange projects under the general guidance of the AMRL team. As a key member of the AMRL, you will provide a high level of expertise on a broad range of materials characterisation techniques, produce accurate results with effective turnarounds and ensure that all projects meet specification, standards and performance requirements. You will contribute to the AMRL knowledge exchange portfolio and proposals, with assistance from senior colleagues as required.

To be considered for the role, you will be educated to PhD level in Materials/Metallurgical Engineering or a closely related discipline; or you will have significant experience in a similar role in addition to a relevant Honours Degree. You will have a track record of experience in materials research and highly skilled materials characterisation techniques such as scanning electron microscopy, energy and wavelength dispersive spectroscopy, electron backscatter diffraction, X-ray diffraction, and a range of thermal analyses and mechanical testing, and you will have experience of complying with all health and safety management related matters associated with your area of expertise. You will require a strong knowledge of materials' properties to support the AMRL in providing a comprehensive information suite across different material systems and revealing the complex mechanisms intrinsic of materials issues. You will be familiar with activities such as reverse engineering of components with unknown origin, failure investigation, macro- to micro-scale test design, long term performance of structural materials or coatings in service conditions, exposed to high temperatures and/or aggressive environments. You will be accustomed to working with internationally recognised standards, such as ISO, American (ASTM) or European (EN, DIN, BS, etc.); at the same time, you will be resourceful to deliver bespoke testing solutions.

Whilst not essential for the role, applications from candidates with expertise in transmission electron microscopy are welcomed.

## Job Description

### Brief Outline of Job:

Under the guidance of the AMRL Knowledge Exchange Fellows, the Experimental Officer will support the AMRL with the delivery of projects for industrial contracts as well as research projects. For this, the post holder will be expected to work independently and show a developing ability to conduct individual research/KE work, to disseminate results and to prepare research and project proposals with guidance from senior colleagues. The post holder will be expected to provide training to undergraduate and postgraduate students, and peers from academia and industry.

### Main Activities/Responsibilities:

1.	Deliver on advanced materials characterisation tasks as required, such as scanning electron microscopy, energy and wavelength dispersive spectroscopy, electron backscatter diffraction, X-ray diffraction, and a range of thermal analyses and mechanical testing.
2.	Plan and manage own workload with guidance from colleagues to support the AMRL Knowledge Exchange Fellows with the day-to-day activities such as research access, instrument SOPs, financial aspects, service and maintenance schedules and Quality Assurance practices.
3.	Contribute to the overall AMRL growth by working as an integral part of the AMRL team, inputting to the research programme and capability development, as necessary, to meet strategic objectives.
4.	Conduct individual and/or collaborative knowledge exchange activities, including determining appropriate methods and contributing to the development of new knowledge exchange methods, continually reflecting on practice/methodology to enhance delivery to partners.
5.	Provide various stakeholders with regular verbal and/or written reports on the progress of AMRL projects.
6.	Write-up research work for publication individually or in collaboration with colleagues, and disseminate results as appropriate.
7.	Support the AMRL team with marketing activities such as organisation of workshops, maintenance of the AMRL website and internet presence, update of marketing material (e.g. brochures, posters, presentations, etc.).
8.	Write-up research work for publication individually or in collaboration with colleagues, and disseminate results as appropriate.
9.	Contribute to the department's knowledge exchange effort by supervising staff/students, supporting KE applications, participating in budget meetings, joining external networks, and being involved in CPD events and taking part to the Department/Faculty committees.
10.	Build up internal contacts and participate in internal networks for exchange of information and to form relationships for future collaboration.
11.	Engage in continuous professional development.
12.	Contribute in a developing capacity to Department/School, Faculty and/or University administrative and management functions and committees.

## 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 Good first degree in Materials Science, Metallurgy or Engineering

E2 PhD or equivalent experience in Material Science or closely related area

D1 Membership of relevant Chartered/professional bodies

### Experience

E3 Extensive experience in the use of analytical and testing techniques used in Material Science

E4 Ability to develop training protocols for the analytical equipment available in the AMRL relating to various aspects of material science.

E5 Expertise in utilising/advising on the use of a wide range of engineering materials (particularly metallic) and coatings

- E6 Experienced in producing detailed technical reports
- E7 Sufficient breadth or depth of knowledge in materials' properties, testing and processing to contribute to knowledge exchange programmes and to the development of knowledge exchange activities

#### **Job Related Skills and Achievements**

- E8 Ability to manage all health and safety related matters i.e. creating and renewing risk assessments for the AMRL activities and ensuring that all users comply with them.
- E9 Skilled in scanning electron microscopy, energy dispersive spectroscopy and electron backscatter diffraction
- D2 Skilled in the preparation of samples for and operation of transmission electron microscopy with energy dispersive spectroscopy
- E10 Skilled in x-ray diffraction
- E11 Ability to provide training to students and researchers on AMRL equipment as required
- E12 Ability to identify and develop characterisation methodology to meet materials testing needs

#### **Personal Attributes**

- E13 Dynamic, highly organised and competent individual
- E14 Ability to solve complex problems to meet research objectives
- E15 Excellent interpersonal and communication skills, with ability to present complex information in an accessible way to a range of audiences.
- D3 Ability to support less experienced colleagues and collaborate with researchers internally and from external institutions

#### **Other Relevant Factors**

- D4 Knowledge of existing facilities at Strathclyde
- D5 Knowledge of, and adherence to, the University's Policies such as Health and Safety
- E16 It is expected that the candidate will complete the relevant University Radiation and Laser safety training courses within the three months of appointment

## **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 Alex Galloway, Director of AMRL ([alex.galloway@strath.ac.uk](mailto:alex.galloway@strath.ac.uk)/ 0141 548 3492).

### **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](#).

### **Conditions of Employment**

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

### **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 expected to be held on the week commencing Monday, 3 September 2018.

## 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.

