Job Related Information

This document includes information about the role for which you are applying and the information you will need to provide with your application.

1. Role Details

<table>
<thead>
<tr>
<th>Vacancy reference</th>
<th>VRF 15540</th>
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</thead>
<tbody>
<tr>
<td>Job title:</td>
<td>StressMap Research Manager</td>
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<tr>
<td>Reports to:</td>
<td>Professor of Materials Engineering</td>
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<tr>
<td>Salary:</td>
<td>£33,199 to £39,609 depending on qualifications and experience</td>
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<tr>
<td>Terms and conditions:</td>
<td>Research</td>
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<tr>
<td>Grade</td>
<td>GR8</td>
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<tr>
<td>Duration of post:</td>
<td>36 months</td>
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<tr>
<td>Working hours:</td>
<td>Full time</td>
</tr>
<tr>
<td>Location:</td>
<td>Milton Keynes</td>
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<tr>
<td>Closing date:</td>
<td>Noon on 21st January 2019</td>
</tr>
<tr>
<td>Type of application form accepted:</td>
<td>Short / CV and Covering letter</td>
</tr>
<tr>
<td>Number of referees required:</td>
<td>3</td>
</tr>
<tr>
<td>Unit recruitment contact:</td>
<td>Jenni Wilde</td>
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</tbody>
</table>
2. Summary of duties

The main purpose of the post is to lead the StressMap Measurement Services Business Unit based within the School of Engineering and Innovation at The Open University. StressMap was founded in 2013 and is known as the leading provider of Contour residual stress measurements in the UK and beyond. We are looking for a dynamic Research Manager who will develop the business over the next 3 years through innovation and taking advantage of market opportunities arising, for example working more closely with Central Facilities. Specifically the duties will include:

1. To build the turnover and capability of StressMap through attracting new income including industrial R&D, public funding and consultancy services.
2. To market and promote StressMap services to the intended audience. This will entail identifying the key events and organizations in which to show a presence and engage in dialogue with a view to developing and increasing external business opportunities and income.
3. To deliver research solutions and consultancy services to industrial clients to time, to budget and required quality assurance.
4. To plan, direct and undertake experiments to solve industrial research measurement challenges within budget and timescale.
5. To apply appropriate modelling techniques to address stress engineering research objectives.
6. To compile, analyse, assess and write up data from measurement and modelling studies.
7. To summarise research findings in reports for industry, conference papers and journal articles.
8. To supervise StressMap Research and Project Engineers including training.
9. To manage and streamline all StressMap processes and interfaces with clients and internal stakeholders.
10. To prepare bi-annual business reports for the Faculty.
11. Travel to meet clients, including overseas.

3. Person specification

Requirements  (E = Essential/ D = Desirable)

Education, qualifications and training

- A first degree (or equivalent level of education)

Knowledge, work and other relevant experience

Essential:
- Specialist knowledge and experience of structural mechanics and stress analysis, including a working knowledge of residual stress and its effects on structural integrity, and residual stress measurement techniques.
- Experience of residual stress measurement using the contour method.
- Experience of business planning and review, including project management.
- Capacity to develop and realise business opportunities.
- High level computer skills including specialist software as well as standard packages.
- An understanding of workshop practice coupled with a willingness to be trained in how to undertake wire Electrical Discharge Machine (EDM) and related practical work.
- The ability to network and communicate effectively with managers, scientists, engineers, technicians and support staff in academia and industry (evidence of a strong network required).
- Evidence of a client and service focused approach with capability to define and meet customer requirements, and manage customer relationships and expectations.
- Good presentation skills at meetings, seminars and conferences.
- Ability to write concisely in English, including preparation of technical specifications, technical reports and journal papers.
- Ability to deliver outcomes by taking initiatives, managing competing priorities and working with others effectively.
- Adaptability to learn skills that may be lacking, including: quality assurance management, understanding legal issues (liability, IP etc.), costing and pricing, and working effectively within the constraints of a large organisation

**Desirable:**
- PhD or equivalent.
- Experience of MATLAB and finite element analysis using Abaqus.
- Workshop experience.
- Work experience in a commercial setting.
- Experience of computer programming, for example in Python.

**Personal abilities and qualities**

**Essential:**
- Good presentation skills at meetings, seminars and conferences.
- Good creativity and innovation skills.
- Evidence of working with others effectively.
- Ability to take the initiative to deliver outcomes.

**Desirable:**

### 4. Role specific requirements e.g. Shift working

Working hours will initially coincide with standard practice. But as the business grows flexible working might be required to meet demand and make maximum use of OU workshop and associated specialist equipment. Some UK and international travel will be required to support the post objectives and to promote collaboration.

### 5. About the unit/department

**School of Engineering & Innovation**

The School of Engineering and Innovation is one of the largest Schools in the STEM Faculty, with circa 80 academic staff and around 40 full-time PhD students. It is a broad-based multidisciplinary School that leads the OU’s teaching in the areas of Engineering, Technology and Innovation Management, Design, Systems Thinking.
and Environmental Management. We support qualifications including the IMechE, IET, IED and CIBSE accredited BEng/MEng, the IED accredited BA/BSc in Design and Innovation, the BSc in Environmental Management and Technology, the MSc in Engineering, the MSc in Technology Management, the MSc in Systems Thinking in Practice and the IEMA accredited MSc in Environmental Management.

The School is one of the most research-intensive in the University, hosting two submissions in REF2014 from Materials Engineering and Design. Other areas of active research within the School that have contributed to the university’s REF2014 submissions include Energy, Acoustics, Waste Management, and Systems Thinking.

**Materials Engineering**

The Materials Engineering community at the OU is one of the leading materials research groups in the UK with a focus on engineering application. The excellence of our research is attested by our REF2014 performance; Panel B13 judged 91% of materials engineering research at the OU to be ‘world leading’ or ‘internationally excellent’ placing us within the top 13 in the UK (based on outputs). The Materials Engineering group comprises 10 academic staff, 4 technical support staff, 3 post-doctoral researchers, 10 PhD students, and an extended community of interest embracing energy and transport themes within the School of Engineering & Innovation, as well as atomic/molecular science-based materials research elsewhere within the STEM Faculty. Materials Engineering academic staff drive the Faculty’s engineering teaching programme, contributing to the presentation of around 13 modules with a total of 3000 students.

The Materials Engineering laboratories are well equipped for diffusion bonding and brazing, for electropulse processing, for residual stress measurement using various mechanics-based methods (including our world-leading contour method research) and non-destructive X-ray diffraction, for mechanical testing at high temperatures using digital image correlation (DIC) strain monitoring, for metrology (CMMs, confocal microscope and AFM), for microstructural examination (SEM, FEGSEM, TEM, XPS, EDX, microprobe, nanoSIMS) and for hardness measurement (macro, micro and nano-indentation). In addition, we have a dedicated workshop with a wire electro-discharge machining facility (four machines including micro-EDM).

Materials Engineering staff have pioneered application of neutron and synchrotron X-ray methods to the study of residual and internal stresses in engineering materials since the early 1990s. The original £3.5m design and build of the ENGIN-X engineering instrument at the UK ISIS neutron facility was led by the OU and the software we developed for experimental design and execution (SScanSS) is licensed and used at many facilities worldwide. We have recently contributed to the design of the new £10m IMAT instrument that has been commissioned recently and have a programme of jointly funded PhD students with the facility. The Open University and the ISIS Facility currently have a joint plan to establish an International Stress Engineering Centre, I-SEC(UK), on the Harwell campus that will accelerate innovation through bringing together physics and mechanics-based stress measurement expertise and facilities at a global scale.

**StressMap**

StressMap is a Materials Engineering Measurement Services Business Unit dedicated to providing specialist stress/strain measurement services to clients worldwide. We specialise in the Contour Method of residual stress measurement and testing, which can give informative insights on how to improve design and manufacturing processes while enhancing the overall structural lifetime and safety. Our services have assisted a range of industries including aerospace, power (nuclear and non-nuclear), energy, automotive and transport in taking informed decisions, which led to reduced costs and increased reliability.

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**6. How to obtain more information about the role or application process**

If you would like to discuss the particulars of this role before making an application, please contact Professor John Bouchard on +44 (0)1908 632950 or email: john.bouchard@open.ac.uk

If you have any questions regarding the application process, please contact Janie Barker on +44 (0)1908 653665 or email: STEM-Recruitment@open.ac.uk.
7. The application process and where to send completed applications

<table>
<thead>
<tr>
<th>Please ensure that your application reaches the University by:</th>
<th>Noon, 21st January 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post it to:</td>
<td>Staffing Team</td>
</tr>
<tr>
<td>Name/Job title:</td>
<td>Jenni Wilde, Staffing Adviser</td>
</tr>
<tr>
<td>Department/Unit:</td>
<td>Deanery, Faculty of Science, Technology, Engineering &amp; Mathematics</td>
</tr>
<tr>
<td>Address:</td>
<td>Chambers Building Walton Hall Milton Keynes</td>
</tr>
<tr>
<td>Post Code:</td>
<td>MK7 6AA</td>
</tr>
<tr>
<td>Or e-mail your application to:</td>
<td><a href="mailto:STEM-Recruitment@open.ac.uk">STEM-Recruitment@open.ac.uk</a></td>
</tr>
</tbody>
</table>

8. Selection process and date of interview

| The interview panel will be chaired by: | Professor John Bouchard |
| The other members of the interview panel will be: | Dr Foroogh Hosseinzadeh, Mr C Snelling |
| The interviews will take place on: | To be confirmed |
| The selection process for this post will include | To be confirmed |

We will let you know as soon as possible after the closing date whether you have been shortlisted for interview. Further details on the selection process will also be sent to shortlisted candidates.

Applications received after the closing date will not be accepted.