CANDIDATE BRIEF

Research Fellow in Bio-Inspired Poroelastic Lubrication of Soft Surfaces, Faculty of Engineering

ENGINEERING

Salary: Grade 7 (£32,548 – £38,833 p.a.)

Reference: ENGME1114

Closing date: 12 December 2017

Fixed-term for 30 months

Research Fellow in Bio-inspired Poroelastic Lubrication of Soft Surfaces
Institute of Functional Surfaces, School of Mechanical Engineering

Are you an experienced and ambitious researcher looking for your next challenge? Do you have a background in Tribology and Material Science? Do you want to further your career in one of the UK's leading research intensive Universities?

This [Leverhulme Trust](#) funded project aims to exploit the current lubrication theories around natural synovial joints to deliver an in-depth understanding of poroelastic lubrication and the variables that contribute to their effectiveness. You will produce the tribological science and developmental framework which will underpin future developments for functional bearings designs. Your research will include the design, development and optimisation of novel material architectures to promote poroelastic lubrication at sliding interfaces. As part of this you will be expected to investigate the functional tribological properties of your materials both experimentally and analytically.

You will work in a multidisciplinary team, with colleagues in the [Institute of Functional Surfaces](#) (iFS) in the [School of Mechanical Engineering](#) and [Imperial College](#), London. You will use and develop your skills in mechanical engineering, analytical modelling, engineering tribology, and will contribute to laboratory meetings, conferences and publications with iFS and other collaborators.

What does the role entail?

As a Research Fellow your main duties will include:
- Planning and managing your own research activity and in collaboration with the investigators as appropriate;
- Responsibility for the day to day progress of the project, with a major emphasis on time in the laboratory carrying out the programme of research;
- Designing and conducting research within the remit of the grant, developing novel methodology and techniques as required, and discuss findings and strategy with the supervisors;

- Communicating and presenting research results both within the research group and externally through high quality publications and presentations at national and international meetings to publicise the group's work;
- Maintaining and developing laboratory and other research skills including lab notebooks and data archiving as required by Leverhulme Trust;
- Being aware of relevant research literature by a process of self-directed enquiry and continuing education;
- Being an active member of the research team through contributing to development of research objectives, programme design and longer term strategic planning;
- Attending training courses to gain other skills required for career development.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

What will you bring to the role?

As a Research Fellow you will have:
- A 1st class or 2:1 undergraduate degree in an Engineering based discipline;
- A PhD (or expecting to obtain one shortly) in an Engineering discipline;
- A strong background in tribological and lubrication research;
- Understanding of basic poro-elastic lubrication mechanisms;
- Experience of soft materials fabrication;
- Experience of mechanical testing of engineering materials;
- Evidence of strong laboratory based skills including surface characterisation, mechanical testing and tribological testing;
- Evidence of a capacity to evaluate methods and techniques and to communicate/present research results;
- Evidence of publications in peer-reviewed journals;
- Computer and information technology skills including LabView, Origin and MS office;
- Effective interpersonal and communication skills and the ability to work as part of a multidisciplinary team;
- Effective organisational skills, with the ability to work well under pressure and to meet tight deadlines;

- Availability and willingness to work flexibly between laboratories to meet the project needs.

How to apply

You can apply for this role online; more guidance can be found on our How to Apply information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

Contact information

To explore the post further or for any queries you may have, please contact:

Dr Michael Bryant or Professor Anne Neville
Tel: +44 (0)113 343 2161
Email: M.G.Bryant@leeds.ac.uk or A.Neville@leeds.ac.uk

Additional information

Faculty and School Information
Further information is available on the research and teaching activities of the Faculty of Engineering and the School of Mechanical Engineering.

A diverse workforce
The Faculty of Engineering is proud to have been awarded the Athena Swan Silver Award from the Equality Challenge Unit, the national body that promotes equality in the higher education sector. Our equality and inclusion webpage provides more information.

Working at Leeds
Find out more about the benefits of working at the University and what it's like to live and work in the Leeds area on our Working at Leeds information page.

Candidates with disabilities
Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our Accessibility information page or by getting in touch with us at disclosure@leeds.ac.uk.

Criminal record information

Rehabilitation of Offenders Act 1974
A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our [Criminal Records](#) information page.