UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Assistant in Musculoskeletal Biomechanics, Faculty of Engineering and Physical Sciences

Salary: Grade 6 (£32,546 – £38,249 p.a.)

Reference: EPSME1190

Location: Leeds main campus (with scope for hybrid working)

Closing date: Thursday 17 April 2025

Fixed-term for up to 12 months

We are open to discussing flexible working arrangements

Research Assistant in Musculoskeletal Biomechanics, Institute of Medical and Biological Engineering, School of Mechanical Engineering.

Do you have a strong technical background in experimental biomechanics with an interest in musculoskeletal joints? Would you like to work as part of a multidisciplinary institute to address a clinically driven challenge?

We are looking for a proactive individual to join our team of researchers at the institute of Medical and Biological Engineering, to support our vision to improve the quality of life of an ageing population.

This role will support two projects that are focussed on new surgical interventions for the knee and spine. In the UK, over five million people have osteoarthritis of their knee, while four out of five adults will suffer from back pain during their lifetime. We are investigating a range of new surgical interventions for the knee and intervertebral discs of the spine, that aim to prevent or delay the need for total knee replacement or spinal fusion surgery. We have developed methods to evaluate the treatments in the laboratory using cadaveric tissue, and in computer models using 3D imaging and finite element analysis.

This project will involve using image processing methods to evaluate specimens tested in the laboratory, in some cases building finite element models of the tissue to perform further analysis. You will join a wider group developing in vitro and in silico preclinical models of musculoskeletal joints. You will have a strong background in image analysis and finite element modelling and have a proactive approach to working in an experimental and computational environment. You will join an institute that includes different expertise and substantial experience in supporting early-stage researchers in a key phase of their career. We encourage an environment of collaboration, trust and wellbeing, which values difference of ideas and embraces diversity.

What does the role entail?

As a Research Assistant, your main duties will include:

- Performing image analysis and computational modelling of spine and knee specimens;
- Conducting additional experimental work and imaging on human or food-chain animal specimens where necessary, in collaboration with other researchers and using existing protocols;
- Extracting data from the image analysis and modelling work alongside corresponding experimental data and performing comparative analyses;
- Supporting research activities, including contributing to research results and outputs and to the generation of original ideas, ensuring a successful programme of investigation;
- Writing reports, undertaking literature reviews and preparing papers for publication, with guidance as necessary;
- Collating and analysing data to inform the direction and progression of the research project;
- Participating in the research group and presenting research output where appropriate;
- Working both independently and as part of a larger team of researchers and stakeholders;
- Contributing to the research culture of the School, where appropriate;
- Continually updating your knowledge, understanding and skills in the research field.

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 Assistant, you will have:

- An undergraduate or masters degree in mechanical engineering, bioengineering or a closely allied discipline;
- A strong background in 3D image analysis and in image-based finite element modelling of the knee or spine;
- Experience in soft tissue characterisation or modelling;
- Good interpersonal and communication skills, both written and verbal and the ability to communicate effectively with a wide range of stakeholders;
- Well-developed analytical skills;
- Good time management and planning skills, with the ability to meet tight deadlines;
- A proven ability to work well both independently and in a team;
- The ability to work accurately, unsupervised and use your own initiative.

You may also have:

- A PhD (or close to completion) in medical engineering or a closely allied discipline;
- Experience of contributing to the writing of papers for publication;
- Experience in using 3D imaging (CT or MRI) for research;
- Experience in using Python or Matlab;
- Experience in or working knowledge of handling human tissue following HTA compliant principles.

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:

Professor Ruth Wilcox, Professor of Biomedical Engineering
Email: R.K.Wilcox@leeds.ac.uk

Additional information

Faculty and School Information
Further information is available on the research and teaching activities of the Faculty of Engineering & Physical Sciences, and the School of Mechanical Engineering and the Institute of Medical & Biological Engineering.

Working at Leeds
We are a campus-based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our Working at Leeds information page.

A diverse workforce
As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. Within the Faculty of Engineering and Physical Sciences we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian and ethnically diverse people; people who identify as LGBT+; and people with disabilities. Candidates will always be selected based on merit and ability.

The Faculty of Engineering and Physical Sciences are 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.

Information for disabled candidates
Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found under the 'Accessibility' heading on our How to Apply information page or by getting in touch by emailing HR via hr@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.

Salary Requirements of the Skilled Worker Visa Route

Please note that due to Home Office visa requirements, this role may only be suitable for first-time Skilled Worker visa applicants if they are eligible for salary concessions. For more information, please visit the Government's Skilled Worker visa page.

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information, please visit the Government's page, Apply for the Global Talent visa.