



UNIVERSITY OF LEEDS

**Marie Skłodowska-Curie Early Stage Researcher in Medical Engineering
(Implant Debris), Faculty of Engineering & Physical Sciences**



**Salary: In line with Marie Skłodowska-Curie Innovative Training
Network requirements**

Reference: EPSME1035

Closing date: 31st March 2021

Fixed-term for 3 years

We will consider flexible working arrangements

Research Fellow in Marie Skłodowska-Curie Early Stage Researcher (PhD)

School of Mechanical Engineering

Do you want to be part of a globally leading research network comprising institutions across Europe? Would you like to learn new skills in medical engineering with a focus on novel surfaces and corrosion? Could you be a future research leader in providing solutions to some of Europe's most pressing healthcare problems? Do you want to further your career and attain a PhD at one of the UK's leading research intensive universities?

This project sets out to understand the physio-chemical properties of nano-meter sized debris derived from biomedical devices as a result of tribological and corrosion processes. This research will use advanced preclinical testing (whole joint simulators), state of the art surface analysis (Atom Probe Tomography, ambient pressure XPS), nano-mechanical and electrochemical techniques to better understand the systemic effects of biomedical implant debris degradation. The effect of debris degradation processes on the cellular matter will be deduced in collaboration with [Uppsala University](#) and Simulation Solutions. To complete this exciting project you will be based in the [Institute of Functional Surfaces](#) and have access to world leading equipment including advanced simulators and other devices for both the tribological testing of implants and the characterisation of the surfaces both coated and uncoated. This project will be supervised by [Dr Michael Bryant](#) and [Prof Richard M Hall](#).

You will join a recently funded European Training Network (ETN) BioTrib (project ID 956004, call H2020-MSCA-ITN-2020). BioTrib offers high-level doctoral training to a total of 15 Early Stage Researchers (ESRs) of which 3 will be employed at the University of Leeds. The project lead is Prof Richard M Hall at the University of Leeds.

Important eligibility rules for this position:

There are no restrictions on the nationality, but

- Applicants must, at the time of recruitment, have not yet been awarded a doctorate degree and be in the first 4 years (full-time equivalent) of their research careers. This is measured from the date that you obtained the degree which would entitle you to embark on a PhD.
- At the time of recruitment, applicants must not have resided or carried out their main activity (work, studies, etc...) in the UK for more than 12 months in the 3



years immediately prior to their recruitment under the BioTrib project. Compulsory national service and/or short stays such as holidays are not taken into account.

Salary:

- The Marie Skłodowska-Curie Early Stage Researcher living allowance is fixed at **€62,057** per annum including the mobility allowance. This figure is before employer's and employee's deductions for national insurance and taxes per year, which will be paid in Sterling using an appropriate conversion rate.

What does the role entail?

As a Research Fellow, your main duties will include:

- Delivering cutting edge research in the area of biotribology;
- Collaborating with international research organisations to enhance the functional performance of joint replacements;
- Developing initiative, creativity and judgement in applying appropriate approaches to research activities;
- Actively participating in all relevant activities organised by the network as advised by the Supervisor;
- Attending meetings as required to discuss the project. This will involve occasional EU-wide travel;
- Ensuring good day-to-day progress of work, and maintaining accurate records;
- Delivering the outcomes guided by the research aims and objectives, and contributing to setting the direction of the research project and team;
- Utilising advanced methods and techniques to understand the engineering science important for joint replacement;
- Preparing papers for publication in leading international journals and disseminating research results through other recognised forms of output such as conferences or public engagement;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Enhancing your own professional development through accessing the Network Wide Events put in place by the MSC Network;



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 Masters or Undergraduate degree in Mechanical Engineering or allied discipline;
- Satisfy the eligibility requirements set for an Early Stage Researcher funded by Marie Skłodowska-Curie as outlined above and you must be eligible to be appointed as an Early Stage Researcher in the UK;
- Satisfy the [eligibility requirements](#) to enrol on a PhD degree. This includes acceptable English language requirements if English is not your first language;
- A strong background/interest in tribology, implant mechanics and/or medical engineering;
- A demonstrable aptitude for experimental engineering with a strong understanding of the underpinning engineering science;
- The flexibility to travel throughout the EU;
- Good time management and planning skills, with the ability to meet tight deadlines and work effectively under pressure;
- Excellent written and verbal communication skills including presentation skills;
- Proven ability to manage competing demands effectively, responsibly and without close support;
- A proven ability to work well both individually and in a team;
- A strong commitment to your own continuous professional development.

You may also have:

- Experience of pursuing external funding to support research;
- Experience of publishing scientific work in either peer-reviewed journals or as conference publications;
- Experience of engaging with users of research outcomes as well as the general public on matters of science and engineering.



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 Mike Bryant, School of Mechanical Engineering

Email: M.G.Bryant@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.

A diverse workforce

The Schools in the Faculty of Engineering & Physical Sciences are proud to have been awarded the Athena SWAN [Bronze or 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 is 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.

