



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

**Research Fellow in Coating Tribology of Electric Vehicles,
Faculty of Engineering and Physical Sciences**



Salary: Grade 7 (£37,099 – £44,263 p.a.)

Reference: EPSME1163

Location: Leeds campus

Closing date: Sunday 16 June 2024

Fixed-term for 12 months

We are open to discussing flexible working arrangements

Research Fellow in Coating Tribology of Electric Vehicles, Institute of Functional Surfaces, School of Mechanical Engineering.

Are you an ambitious researcher looking for your next challenge? Do you have a background in Tribology, Surfaces, Interfaces or Coatings, in particular tribology in electric vehicle transmission systems? Are you interested in developing new skills and working with a large consortium of industrial partners?

We are looking for an enthusiastic researcher with expertise in coating tribology in electric vehicles in the Institute of Functional Surfaces (iFS) to work on the work package related to the Excellence in Conceptual Evolution of Electric Drives (ExCEED) project.

You will lead the experimental investigation of the coating tribology work on the transmission system. You will investigate the compatibility of lubricants and coatings at the lab scale and support the manufacturing of the full-scale component tests with other colleagues and the other project partners. You will also be investigating the failure mechanisms by the advanced surface analyses techniques. You will have the opportunity to collaborate closely with other researchers to develop new learning materials and to disseminate the project findings via publications, presentations and other recognised forms. You will also attend and contribute to organizing regular meetings and the local data management plan.

Excellence in Conceptual Evolution of Electric Drives (ExCEED) is a £19.8 million project, supported by £9.9 million in government funding through Advanced PRO Collaborative R&D competition. ExCEED is focused on developing a next generation EDU 'toolkit'; a modular family of machines, inverters and transmissions for future vehicle platforms. The project is led by JLR and is bringing together a consortium of experts from The Lubrizol Corporation, Newcastle University, Specialised Electrical Machines Design, University of Leeds, University of Nottingham & ZeBeyond Ltd.



What does the role entail?

As a Research Fellow, your main duties will include:

- Working with and in support of the ExCEED project workpackage, ensuring good day-to-day progress of work, and maintaining accurate records;
- Delivering the cutting edge research in the area of materials coating tribology in electric transmission systems;
- Working closely with the coating lab and experimental officer to ensure the related manufacturing processes are on track;
- Generating and pursuing independent and original research ideas in the appropriate subject area;
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;
- Making a significant contribution to the dissemination of research results by publication in leading peer-reviewed journals and by presentation at national and international meetings;
- Working independently and as part of a larger team of researchers, both internally and externally, to develop new research links and collaborations and engage in knowledge transfer activities where appropriate;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own research;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects in areas relevant to the project.

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 PhD (or have submitted your thesis before taking up the role) and a Bachelor's or Master's degree in Tribology, Mechanical Engineering, Material Science and Engineering, Surface Engineering or a closely allied Engineering Science discipline;
- A strong background/interest in experimental tribology, coating and lubrication;
- Good experience in engineering failure analyses and the ability to work effectively with various surface analyses techniques;
- Proven experience in experimental engineering with a strong understanding of the underpinning engineering science;
- Experience of multi-disciplinary research and working with multiple stakeholders, particularly on industrial projects;
- Good time management and planning skills, with the ability to meet tight deadlines and manage competing demands effectively without close support;
- A developing track record of peer-reviewed publications in international journals;
- Excellent communication skills both written and verbal, and the ability to communicate your research at national and international conferences;
- A proven ability to work well both independently 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;
- Knowledge of various vapour deposition methods (such as PVD and CVD);
- Knowledge of tribology in transmission systems (gearbox and bearing);
- Experience and knowledge of tribology in electric vehicle;
- The ability to interact with PhD students, Masters students and undergraduates in ways that will enrich the student experience in the School.

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 Liuguan Yang](#), Lecturer in Surface Engineering

Tel: +44 (0)113 343 2198

Email: L.Q.Yang@leeds.ac.uk

Additional information

More about this funding announcement can be found here: <https://okt.to/FImQvA>

Delivered in collaboration with Department for Business and Trade and Innovate UK.

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#Innovation UKmanufacturing

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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

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.



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.

Information for disabled candidates

Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found on our [Accessibility](#) information page or by getting in touch with us at 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.

