UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Senior Research Fellow in Power and Railway Engineering (3 positions), Faculty of Engineering and Physical Sciences

Salary: Grade 8 (£51,753 – £59,966 p.a. pro rata)

Reporting to: Professor Kang Li

Reference: EPSEE1153

Closing date: Sunday 01 March 2026

Fixed term (12 months - to complete specific time limited work)

Three positions, part-time, each 11.25 hours per week

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

We are open to discussing flexible working arrangements

Senior Research Fellow in Power and Railway Engineering (3 positions),
School of Electronic and Electrical Engineering.

Are you a leading expert in power and railway engineering, with a career defined by shaping the future of energy and transport? Have you had 20+ years of industrial experience with a legacy of leadership in research and innovation in smart grid/railway electrification?

Overview of the Role

You will be joining an exciting consortium consisting of leading industrial partners in railway and power sectors together with University of Leeds, to address the technical and operational challenges in designing, constructing and energising Railway Energy Hubs connecting to the 25kV AC and/or 750V DC traction networks. This project is the first micro-grid technology to interface across-sectors and provide flexibility services to both the railway network and the power grid.

You will be supporting the project lead to supervise a team of researchers and engineers to conduct the design and development of a multi-layer control strategy which enables the hubs to handle the coordinated control of battery storage, variable DC/AC power sources and highly uncertain stochastic traction loads.

Furthermore, you will be leading the impact, innovation and funding activities, engage proactively with industrial partners to ensure the research remains relevant, has a clear pathway to impact, and take a leading role in the development and writing of proposals to secure new research funding from national and international sources.

You are expected to be a well-established expert at the forefront of industrial R&D in the field of energy and transport decarbonization, having been instrumental in solving the puzzle of a modern power system and having deep, practical knowledge of the entire railway electrification ecosystem. You should also have a strong track record in cross-sector system modelling and data analysis with applications to power and railway systems.

Main duties and responsibilities

- Collaborating with academic colleagues to take a supporting role in Hub design and support the project lead to deliver the planned work packages;
- Support the project lead in developing and implementing simulation programs for the Hub to perform real-time voltage regulation of the 25kV AC and 750V DC traction networks with multiple moving trains;
- Review the techniques used and results obtained from the simulation work to ensure the alignment of the research outputs with the expectations of the industrial partners;
- Advise the research team on the wide traction power supply linked to the project specifications;
- Direct and review the techniques used and results obtained from the simulation work to ensure the alignment of the research outputs with the expectations of the industrial partners;
- Support the project lead with the supervision of the research staff and students in areas relevant to the project;
- Travelling to meet industrial partners, collecting and analysing information related to technology innovation and knowledge transfer in this project and report accordingly;
- Advise and support the energy hub system integration with the traction power network and analysis of the system performance;
- Support the exploration of the commercialization roadmap of the energy hub technology and the dissemination to key stakeholders;
- Help to pursue research funding and support from industrial partners and funding bodies;
- Providing lectures on transport electrification to UG and PGT students.

Qualifications and skills

Essential

- A PhD degree in electrical engineering or closely related disciplines, OR a qualified electrical or rail engineer with 20+ years industrial experience;
- Internationally recognised status as an authority on power grid/ railway electrification;

- A track record of 20+ years power or rail traction system analysis and system development experience;
- A track record of 10+ years leadership role in leading large-scale innovation projects in the power/rail industry;
- A track record of leadership role at national and international professional organizations;
- Excellent time management and planning skills in meeting tight deadlines and work effectively under pressure;
- Excellent written and verbal communication skills including presentation skills.

Desirable

- Track record of successful funding applications;
- Commercialization experience of innovative power and rail electrification technologies;
- Hardware or software development experience.

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 Kang Li, Chair in Smart Energy Systems
Tel: +44 (0)113 343 2045
Email: K.Li1@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 Electronic and Electrical 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.