



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Railway System Integration, Faculty of Engineering & Physical Sciences



Salary: Grade 7 (£33,797 – £40,322 p.a.)

Reference: EPSEE1002

Closing date: 17 November 2019

Fixed-term for three years

We will consider flexible working arrangements

Research Fellow in Railway System Integration

School of Electronic and Electrical Engineering

Do you have an established research track record with the vision and drive to tackle new challenges? Are you passionate about delivering world leading research in one of the UK's leading research-intensive Universities?

The University of Leeds along with external partners is investing around £70 Million in establishment of a new high-speed rail and system integration institute. A 10 acre site is being developed as a Rail Engineering/Technology campus, primarily for high speed rail research and including a systems integration and innovation centre in which School of Electronics and Electrical Engineering is contributing significantly.

This post is funded by our industrial partners to develop a three-tiered integration platform for a phased compatibility study and verification of both electrification plan and new equipment introduced in the railway system, as well as optimal design and integration of power supply system and equipment, given the complex legacy infrastructure and existing power supply systems in the UK rail network.

You will have a PhD (or close to completion) in Electrical & Electronic Engineering, Control Engineering, Computer Engineering, or a closely allied discipline, with a strong background in modelling and analysis of high power electronic and power grid system using appropriate simulation software.

What does the role entail?

As a Research Fellow, your main duties will include:

- Design and develop an integrated software platform to simulate the electrical environment of the railway (power supply and traction), in connection with the command & control systems, and able to model the integration of infrastructure and rolling stock.
- Develop methodologies to assess and minimize the impact of introducing new rolling stock on existing infrastructure.
- Use Hardware-in-the-loop platforms to validate developed models.
- Design a single open software platform that can assess the potential effect of changes to the system arising from the introduction of amended assets, rolling stock or timetables.



- Liaising with academic and industrial partners, summarizing information on technology innovation and knowledge transfer aspects, report writing, research meetings and conference attendance, dissemination of results.
- Preparing papers for publication in leading international journals.
- Maintaining your own continuing professional development and mentoring less experienced colleagues as appropriate;
- Advising on development of training and education materials for railway engineers, technicians and maintenance staff;
- 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 close to completion) in Electrical & Electronic Engineering, Control Engineering, Computer Engineering, or a closely allied discipline;
- A strong background in modelling and analysis of high power electronic and power grid system using appropriate simulation software;
- Software development experience;
- A proven track record of peer-reviewed publications in high impact factor journals;
- 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 with railway systems.



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:

[Prof Kang Li](#), Chair of Smart Energy Systems

Tel: +44 (0)113 3432045

Email: k.li1@leeds.ac.uk

Additional information

Faculty and School Information

Further information is available on the research and teaching activities of the School of [School of Electronic and Electrical 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.

