CANDIDATE BRIEF

Research Fellow in Diffusion of Electric Vehicles in Emerging Countries, Faculty of Environment

Salary: Grade 7 (£38,205 – £45,585 p.a. depending on experience)

Reporting to: Professor Haibo Chen

Reference: ENVTR1204

Fixed term for 12 months to complete specific time limited work

Location: University of Leeds (with scope for hybrid working)

We are open to discussing flexible working arrangements

Overview of the Role

Are you an experienced and ambitious researcher looking for your next challenge? Are interested in pushing forward the state-of-the-art in innovative zero-emission vehicles in both advanced and emerging markets, and in assessing their environmental, social and economic sustainability? Do you want to further your career in one of the world leading research institutions in Transport?

Based in the Institute for Transport Studies at the University of Leeds, you will primarily contribute to the modelling and assessment of electric vehicles. This work aims to derive and assess policy interventions (by developing a modelling and simulation software environment) to increase design and operational efficiency, and reduce energy consumption from electric vehicles (EVs), considering real-world conditions (e.g. transport mission; road topography; weather; and surrounding vehicles).

Joining the Spatial Modelling and Dynamics Research Group and working with Professor Haibo Chen and colleagues, you will specifically work to develop assessment capabilities required for an analysis of affordable and user-centric frugal electric vehicles equipped with innovations such as lighter mass and eco-sustainable materials, suitable range and dynamic performances, and higher utilisation of local reusable resources.

You are expected to mainly work on the EU-funded project "ZEV-UP: Frugal Zero-Emission Vehicles for the Urban Passenger challenge". Your research will provide input to the assessment of policy intervention scenarios and strategies for short- and long-term green vehicle uptake in various markets (particularly in emerging countries), accelerating the transition to sustainable urban mobility and contribute to the reduction of greenhouse gas emissions in the transport sector. You may also be requested to support relevant research activities which are based on the on-going project nPETS in the field of nanoparticle emissions, transport pollution and health impact.

With a PhD or a Masters' degree with equivalent industry experience in Transport Studies, you will also have a strong modelling background in impact assessment, modelling and simulation tools, and a track record of leading successful, high-quality publications.

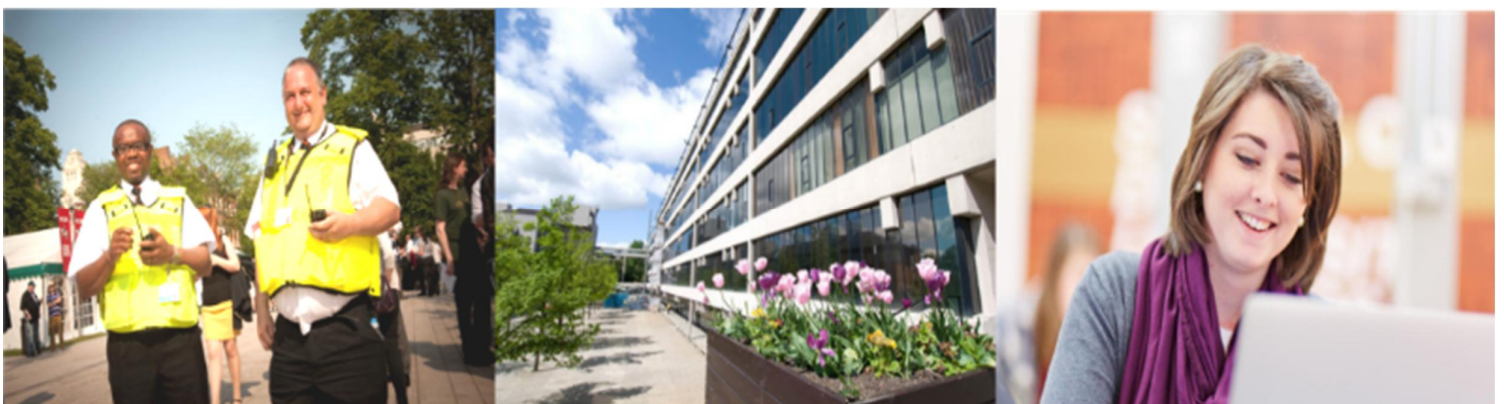## Main duties and responsibilities

- Working with and in support of Professor Haibo Chen's research to ensure the ZEV-UP project are successfully completed, supporting other projects as and when required;
- Generating and pursuing original research ideas in traffic modelling and simulation (taking account of vehicle operations and driver behaviour), big data analytics, impact assessment and/or scaling-up;
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including, where appropriate preparing proposals for funding in collaboration with colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;
- Communicating or presenting research results through publication or other recognised forms of output;
- Preparing papers for publication in leading international journals and independently writing reports;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the research culture of the Institute, where appropriate;
- Contributing to the training of both undergraduate and postgraduate students, where appropriate, including assisting with the supervision of projects in areas relevant to the project;
- 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.

Qualifications and skills

Essential
- A PhD in transportation engineering, or a closely allied discipline;

- A strong modelling background in the assessment of the environmental, economic and social impacts of innovations, related to cost-effective and user-centric electric vehicles;
- Experience in advanced modelling techniques, e.g. System dynamics-based modelling, Agent-based traffic dynamic modelling;
- Research experience in analysis of the diffusion of electric vehicles (EVs) in emerging countries;
- Experience in the use of financial subsidy to increase EVs and quasi-natural experiment;
- Experience in examining influence factors of EV market and models to predict market uptake potential;
- Experience in accessing environmental benefits and calculating carbon footprints using spatio-temporal big data in transportation;
- Experience in advanced data analytical techniques for optimising traffic flow and traffic signal control, e.g. Deep reinforcement learning, Graph learning, Neural networks;
- A strong track record (as a lead author) of peer-reviewed publications in top-tier journals, e.g. Transportation Research Series, IEEE Transactions Series, Transport Policy, Energy-related journals, and/or EV-related journals;
- Good time management and planning skills, with the ability to meet tight deadlines, manage competing demands and work effectively under pressure without close support;
- Maintaining a high level of activity in academia, including experience in participating in editorial activities of international journals;
- Excellent written and verbal communication skills including presentation skills and the ability to communicate effectively with a wide range of stakeholders;
- A proven ability to work well both individually and in a team;
- A strong commitment to your own continuous professional development.

Desirable
- Experience with Python, Matlab/Simulink, SPSS or similar tools (e.g. CPLEX, Vissim, Q-GIS);
- Teaching experiences in (for example) Intelligent Transport Systems, System Engineering, Network theory;
- Experience of dealing with research councils and industry sponsors;
- Experience in securing funding and leading projects.

Additional information

Please note: If you are not a British or Irish citizen, from 1 January 2021 you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen and resident in the UK before 31 December 2020, this may be your passport or status under the EU Settlement Scheme.

Please note that this post may be suitable for sponsorship under the Skilled Worker visa route but first-time applicants might need to qualify for salary concessions. For more information please visit: www.gov.uk/skilled-worker-visa

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information please visit: https://www.gov.uk/global-talent

Find out more about the Institute for Transport Studies.
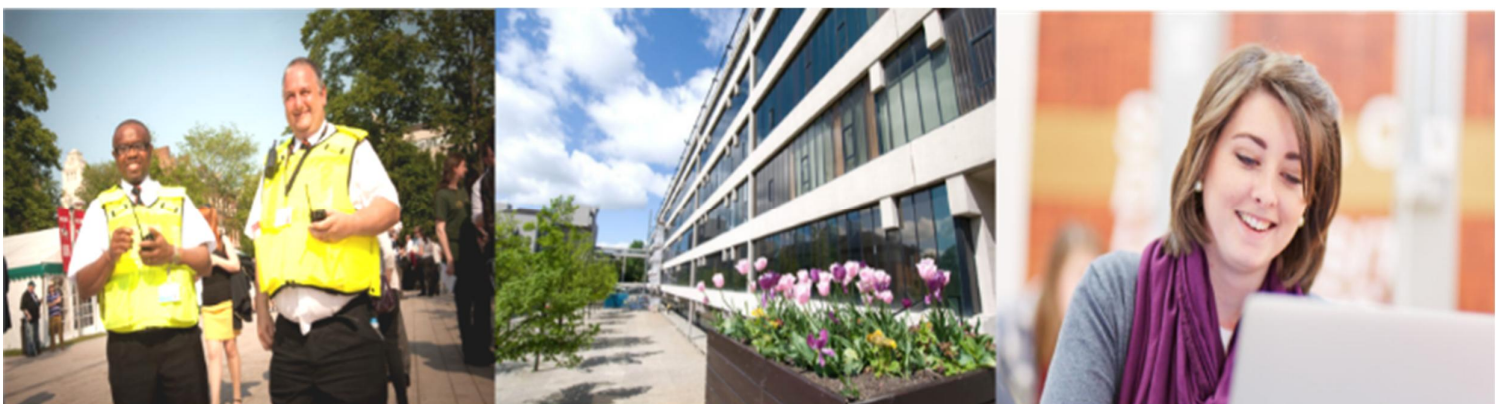
Find out more about the Faculty of Environment.

Find out more about our Research and associated facilities.

Find out more about Equality in the Faculty.

Our University
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 Environment 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, people who belong to a minority ethnic community; people who identify as LGBT+; and disabled people. Candidates will always be selected based on merit and ability.

The Faculty of Environment has received a prestigious Athena SWAN silver award from Advance HE, the national body that promotes equality in the higher education sector. This award represents the combined efforts of all schools in the Faculty and shows the positive actions we have taken to ensure that our policies, processes and ethos all promote an equal and inclusive environment for work and study.

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.

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.