



**UNIVERSITY OF LEEDS**

**Early Stage Researcher (ESR) PhD position in Computational Automated Vehicle/Pedestrian Interaction Models, as part of a new Marie Skłodowska Curie Project at the Institute for Transport Studies**



**Salary: In line with the Marie Skłodowska-Curie ITN requirements**

**Reference:**

**Closing date: Until the position is filled. Please apply as early as possible. Assessments will begin after 22 August 2019. Final closing date 30 September 2020**

**Fixed term for 3 years**



**Early Stage Researcher (ESR), PhD position available as part of the European Project “[SHAPE-IT](#): Supporting the interaction of Humans and Automated vehicles: Preparing for the Environment of Tomorrow”.**

**Are you interested in making mathematical models of human interaction with automated vehicles? Do you want to further your career and attain a PhD in one of the UK’s leading research intensive Universities?**

The successful applicant for this Early-stage researcher (ESR) post will be employed for a period of 36 months at the Institute for Transport Studies, Faculty of Environment, University of Leeds, United Kingdom. The position will be funded by [SHAPE-IT](#), a European Commission Horizon 2020 program for Research and Innovation: Marie Skłodowska-Curie Action (MSCA) Innovative Training Network (ITN). The main objective of SHAPE-IT is to facilitate the safe, acceptable and, ideally, desirable integration of user-centred and transparent automated vehicles (AVs) into tomorrow’s mixed urban traffic environments, using both existing and new research methods, designing advanced interfaces and control strategies.

We are looking for a candidate who is interested in studying **Computational Automated Vehicle/Pedestrian Interaction Models**. Building on existing experimental methods e.g. virtual reality experiments, as well as models developed in the research group, you will investigate and model interactions between cars/AVs and pedestrians in selected situations. You will also apply these models in computer simulations to study how AVs should behave, taking pedestrian intentions and expectations into account. A specific research question of interest is how AVs can achieve efficient progress toward own goals, while at the same time not transgressing human comfort boundaries.

You should have an MSc degree or equivalent in an engineering discipline or in the psychological/cognitive/behavioural sciences, with knowledge in one or more of the following fields: human factors, ergonomics, cognitive science, neuroscience, human machine interfaces, cognitive modelling, artificial intelligence, machine learning, statistics, automotive technology, driver assistance systems, software engineering, computer science, control theory, transport modelling, and safety analysis.



Employment is expected to start between October 2019 and March 2020. The ESRs will be hired for three years. All ESRs will work towards the PhD degree at their host institution, which will be assessed following successful publication of their research in international journals, relevant to their field.

## Important eligibility rules for this position

There are no restrictions on the nationality, but:

- Applicants must, at the time of recruitment, not already hold a doctorate degree and must be in the first 4 years (full-time equivalent) of their research careers (measured from the date of obtaining 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 three years immediately prior to their recruitment to the SHAPE-IT project. Compulsory national service and/or short stays such as holidays are not taken into account.

## Salary

The Marie Skłodowska-Curie Early Stage Researcher salary is €54,858 per annum plus allowances in accordance with Marie Curie European regulations. The salary figure is before employer's and employee's deductions for national insurance and taxes, and will be paid in Sterling on a monthly basis using an appropriate conversion rate.

## What does the role entail?

As an Early-Stage Researcher, supported by your supervision team, your main duties will include:

- Keeping up to date with the research area and state of the art, reading and critically analysing the latest publications related to your PhD project;
- Designing suitable empirical studies, and/or identifying and reusing existing datasets, to address your research questions;
- Analysing the empirical data and developing models and computer simulations accounting for the observed human behaviours;
- Disseminating your results both internally and externally as part of seminars;
- Preparing your findings for suitable conference and journal articles;
- 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 good records.

## What will you bring to the role?

As an Early Stage Researcher, you will have:

- A good Masters' degree, or equivalent, or expecting one by September 2019, in a relevant subject outlined above;
- The ability to satisfy the eligibility requirements set for an Early-Stage Researcher funded by Marie Skłodowska-Curie as specified above;
- The ability to satisfy the [eligibility requirements](#) to enrol on a PhD degree. This includes acceptable English language requirements if English is not your first language;
- The flexibility to travel throughout the EU;
- Applicants must have excellent written and spoken English skills;
- 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;
- Good people skills;
- A strong commitment to your own continuous professional development;
- Strong quantitative (mathematical) skills and programming skills;
- Keen interest (or ideally formal training) in psychology / cognitive science / behavioural science;
- Interest in understanding and improving human interaction with automated vehicles, and the impact of automated vehicles on society.

## How to apply

Applications can be submitted for each individual ESR position at part of the SHAPE IT project. Please provide a separate application for each position. If we identify you as particularly interesting and suitable for one of the positions you have not applied for, we may forward your contact details to the corresponding host (pending your consent to do so), but direct application is recommended. Each application should



include your CV and a motivation letter, highlighting your relevant experience, and your motivation for applying. The letter should be tailored to the individual position you are applying for.

You can apply for this role online; more guidance can be found on our [How to Apply](#) information. Applications should be submitted by **23.59** (UK time) on the advertised closing date. Please specify which project/s you are applying for.

Please note that if you are successful in your application we will also need you to register to study for PhD at Leeds and further details will be provided about how to do this.

## Contact information

To explore the post further or for any queries you may have, please contact:

Dr [Gustav Markkula](#), Email: [G.Markkula@leeds.ac.uk](mailto:G.Markkula@leeds.ac.uk)

## Additional information

### Working at Leeds

You can find out more about our generous benefits package and more about what it is like to work at the University and live in the Leeds area in our [Working at Leeds](#) section.

### Faculty and School Information

Find out more about the [Faculty of Environment](#).

Find out more about our [Institute](#).

Find out more about our [Research](#).

Find out more about [Athena Swan](#) in the Faculty.

### Candidates with disabilities

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found in our [Accessibility](#) information page or by getting in touch with us at [disclosure@leeds.ac.uk](mailto: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.

