# UNIVERSITY OF SUSSEX

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talk flexible
working

## 1       Advertisement

**Post Title:** Research Fellow in Electric Vehicle Market Optimisation
**School/department**: Engineering and Informatics / Engineering and Design
**Hours**: Full time or part time hours considered up to a maximum of 1.0 FTE
Requests for flexible working options will be considered (subject to business need).
**Contract**: Fixed term for 23 months, or until 31st May 2024, depending on full time / part time working pattern
**Reference**: 8584
**Salary**: starting at £34,304 to £40,927 per annum, pro rata if part time
**Placed on:** 09 May 2022
**Closing date**: 02 June 2022   Applications must be received by midnight of the closing date.
**Expected Interview date:** TBC
**Expected start date**: As soon as possible

The Department of Engineering and Design carries out high-quality research activities over several strategic research areas. We have excellent facilities and laboratories, and 88% of our research outputs and 90% of our research impact are categorised as world leading or internationally excellent in the 2014 Research Excellence Framework (REF).

We are seeking to fill a research post for an exciting research project that we participate in. The details are as follows:

- We are one of the 32 partners involved in the major EU H2020-funded project eCharge4Drivers (https://echarge4drivers.eu/).
- eCharge4Drivers works to improve the Electric-Vehicle (EV) charging experience in urban areas and on interurban corridors, making it more convenient for users to go green!
- The Sussex team is responsible for leading the development of EV charging market models of user charging behaviour. Data from the project's demonstrators and modelling techniques will be used to increase charging infrastructure and services uptake.
- We are looking for a postdoctoral researcher to lead the above task.

You will have the opportunity to:

- Develop advanced mathematical and engineering modelling techniques that also transcend several other fields (such as behavioural science, finance) and cover most aspects of EV charging, from the user perspective.
- Participate in a supportive research environment, which values diversity and the wellbeing and professional development of researchers.

- Engage with major international partners from across Europe, at the forefront of EV research.

You will bring good analytical skills and the ability to translate abstract concepts to novel mathematical models. You will also be able to communicate these concepts and models professionally, in written and oral form, to academic, policy and non-academic audiences. The full list of requirements can be found in the further particulars.

Please contact Dr Spyros Skarvelis-Kazakos (s.skarvelis-kazakos@sussex.ac.uk) for informal enquiries.

The University is committed to equality and valuing diversity, and applications are particularly welcomed from women and black and minority ethnic candidates, who are under-represented in academic posts in Science, Technology, Engineering, Medicine and Mathematics (STEMM) at Sussex.

*Please note that this position may be subject to ATAS clearance if you require visa sponsorship.*

For full details and how to apply see our vacancies page

*The University of Sussex values the diversity of its staff and students and we welcome applicants from all backgrounds.*

## 2.    The School

Please find further information regarding the School at https://www.sussex.ac.uk/ei/

## 3.    Recruitment process notes

As part of the interview process, short-listed candidates will be required to provide a short presentation, in order to demonstrate their fit with the criteria laid out in this document. The identity of such short-listed candidates will therefore be known to those who attend the presentations, and the names, application and lists of publications of short-listed candidates will have been available in School Offices to members of the Engineering and Design Department (School of Engineering and Informatics). However, applicants may specify at the time of applying that their application should remain confidential throughout the appointing process. Please indicate whether you wish this to be the case for your application, in which case appropriate arrangements to maintain confidentiality will be made.

**3.     Job Description**

## CORE JOB DESCRIPTION

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|---|---|
| **Job Title:** | Research Fellow in Electric Vehicle Market Optimisation |
| **Grade:** | Research Fellow I, Grade 7 |
| **School:** | School of Engineering and Informatics |
| **Location:** | Richmond or Chichester I building, Falmer campus |
| **Responsible to:** | Principal Investigator through to Head of School |
| **Direct reports:** | n/a |
| **Key contacts:** | Members of research group, members of faculty within the School and University. |
| **Role description:** | Research Fellow I is an early career-grade research position. Post-holders will be expected to contribute to the work of the research team, and also to develop their research skills with support from more experienced members of staff. |

## PRINCIPAL ACCOUNTABILITIES

1.    To engage in individual and/or collaborative research activity resulting in high-quality publications; and to develop research funding and knowledge exchange income individually or in collaboration with others, as appropriate, depending on the size and scope of the bid.

2.    To contribute to School teaching activities.

**KEY RESPONSIBILITIES**

**1. Research, Scholarship & Enterprise**

1.1 Develop research objectives and proposals for own or joint research, at acceptable levels, with assistance if required.

1.2 Conduct research projects individually and in collaboration with others.

1.3 Analyse and interpret research findings and draw conclusions on the outcomes.

1.4 Produce high-quality research outputs for publication in monographs or recognised high-quality journals, or performance/exhibition, as appropriate, and contribute to the School's REF submission at acceptable levels of volume and academic excellence.

1.5 Contribute to the preparation of proposals and applications to external bodies, for example for funding purposes.

1.6 Individually or with colleagues, explore opportunities for enterprise activity, knowledge exchange income and/or consultancy, where permissible.

1.7 Build internal contacts and participate in internal networks and relevant external networks in order to form relationships and collaborations.

1.8 Continually update knowledge and understanding in field or specialism, and engage in continuous professional development.

**2. Teaching & Student Support**

2.1 Undertake teaching duties, if required.

2.2 Assist in the assessment of student knowledge and supervision of student projects if required.

2.3 Assist in the development of student research skills, for example as part of a postgraduate supervision team.

**3. Contribution to School & University**

3.1 Attend and contribute to relevant School and project meetings.

3.2 Undertake additional duties, as required by the Principal Investigator and/or Head of School.

**4. Role-specific duties**

4.1 Undertake academic research to develop a novel market model for electric vehicles, based on optimisation techniques such as revenue management and/or game theory

and/or artificial intelligence. The aim of the model will be to understand and optimise user uptake of electric vehicles.

4.2 Engage with the eC4D consortium partners, in order to coordinate with other project tasks and make the model relevant to the context of the project.

4.3 Compile academic publications based on the outcomes of the work and present them in written and oral form to suitable high-impact conferences, journals and other outlets as appropriate.

This Job Description sets out current duties of the post that may vary from time to time without changing the general character of the post or level of responsibility entailed.

**INDICATIVE PERFORMANCE CRITERIA**

- A PhD or equivalent scholarly or relevant professional activity

- Pursuing a line of independent research within a research group.

- Publishing research (either from a recently completed PhD or new original research).

- Other forms of externally recognised professional practice of creative output of a standing equivalent to regular publication of original research.

- Initiating, developing or participating in links between the University and external bodies such as business and industry, the professions, community organisations and policy-makers.

- Evidence of successful engagement in teaching or supervision.

**PERSON SPECIFICATION**

**ESSENTIAL CRITERIA**

1.   Normally educated to doctoral level, or other equivalent qualification, or appropriate level of experience, as appropriate to the discipline (see role-specific criteria below).

2.   Evidence of engagement in high-quality research activity.

3.   Excellent presentation skills, with the ability to communicate effectively, both orally and in writing, with students, colleagues and external audiences.

4.   Ability to work individually on own initiative and without close supervision, and as part of a team.

5.   Ability to exercise a degree of innovation and creative problem-solving.

6.   Excellent organisational and administrative skills.

7.   Ability to prioritise and meet deadlines.

8.   Excellent IT skills.

**ESSENTIAL ROLE-SPECIFIC CRITERIA**

1.   A PhD in engineering, mathematics, finance or related field, or equivalent research experience in one of those or related fields.

2.   Analytical skills or experience necessary to transform abstract concepts into concrete mathematical models.

3.   Skills and/or experience in programming.

**DESIRABLE CRITERIA**

1.   Emerging track record of high-quality publications in reputable journals and other appropriate media of similar standing.

2.   Some experience in optimal control, machine learning or game theory.

3.   Experience of generating research or knowledge exchange income.