

Job Description

**Title of the post: Senior Post-Doctoral Research Associate -
Developing a Platooning Framework for Autonomous Vehicles
(Fixed-term, full-time appointment)**

Department: National Centre for Precision Farming (within Engineering Department)

The Appointment

Harper Adams University is seeking to recruit a research and development engineer to develop platooning strategies for driverless vehicles as part of a collaborative R&D project. The primary purpose of the role is to investigate, develop and evaluate a framework for platooning of closely spaced autonomous vehicles comprising a number of heterogeneous vehicles.

Main duties and responsibilities

- 1) Conduct a specified programme of research under the supervision and direction of Principal Investigator and research team for Project Synergy;
- 2) Identify suitable modelling design process and techniques for the evaluation and testing of a platooning framework;
- 3) Develop algorithms for operation of a vehicle platoon and test scenarios in an appropriate simulation environment
- 4) Selection, evaluation and integration of sensor systems to manage the autonomous vehicle platoon envelope;
- 5) Evaluate and offer mitigation strategies for potential problems and issues arising from traffic and pedestrian situations;
- 6) Assess the impact of the autonomous platooning system in real-life traffic and infrastructure scenarios;
- 7) Assess the complete autonomous platoon system for functional and operational safety.

Essential criteria

- 1) A PhD qualification in mechanical engineering, mechatronics, electronics or similar or substantial experience as a Post-Doc or equivalent industrial experience in test and development of engineering systems in a simulated and real-life environment;
- 2) Experience of working on engineering development projects that involve systems comprised automotive, mechanical or robotic systems or similar;

- 3) Excellent research standing with strong modelling background with the ability to conduct research on vehicle kinematics, control and traffic simulation.
- 4) Engineering design and development experience including working to functional requirements, testing, design evaluation and validation of systems;

The candidate must have excellent written and verbal communication and presentation skills (use of MS Word, Excel and PowerPoint is essential).

We are looking for a self-motivated person who has proactive approach to work and who has the ability to apply knowledge to solve engineering problems.

Desired criteria

- 1) Experience of systems modelling and simulation using Matlab/Simulink, SUMO and/or other microsimulation packages;
- 2) Practical experience of developing and testing electronic control, sensing and communication systems;
- 3) Programming experience in C/C++/C# or any other Object Oriented Programming language is desirable.

Conditions of Service

The national recommendations which have arisen from the negotiations between UCEA and the unions recognised at national level, the Joint Negotiating Committee for Higher Education Staff (JNCHES), directly affect the terms and conditions insofar as they have been adopted by the Board of Governors.

Salary	The commencing salary will be within the range £33,518 - £37,706 per annum. The point of entry will be dependent upon relevant qualifications and experience. Salaries are paid monthly, in arrears, by credit transfer.
Hours of Work	The routine working week is 37 hours over Monday to Friday, inclusive. There may be an occasional requirement for overtime working and time off in lieu will be allowed for hours worked in excess of 37 per week.
Contract Term	This is a fixed-term, full-time appointment of up to 30 months in the first instance. The employment may be terminated during the course of the contract by either party giving one months' notice.
Holidays	The annual holiday entitlement is 25 working days, plus 3 University closure days and Bank Holidays. The holiday year runs from 1 April to 31 March and in the holiday year in which the employment commences or terminates the holiday entitlement will accrue on a pro-rata basis for each complete week of service. The timing of holidays is subject to the agreement of the Line Manager.

Sick Leave During periods of certified sickness the post-holder will be eligible to receive sick pay in accordance with the University Sick Pay Policy. The payment of sick pay is subject to compliance with the University rules for the notification and verification of sickness absence, details of which will be provided to the successful applicant upon commencement of employment.

Pension The post-holder will be entitled to join the Local Government Pension Scheme (LGPS), subject to its terms and conditions. Full details of the Scheme will be provided to the successful applicant upon commencement of employment.

Criminal Convictions The post involves substantial opportunity for access to children and young persons under the age of 18. For this reason the University is entitled to take into account any criminal convictions, cautions or impending case(s) that it considers to be relevant to the post.

The post is exempt from the provisions of the Rehabilitation of Offenders Act 1974. This means that applicants are not entitled to withhold information about convictions which for other purposes would be considered “spent” under the provisions of the Act.

Applicants must therefore complete the part of the application form declaring any criminal convictions and cautions from any court or police authority. It will be necessary for you to obtain a Disclosure & Barring Service Check (formally known as Criminal Records Bureau CRB) to confirm that you do not have any criminal convictions relevant to the post and that you are not banned from working with children. Full details will be provided once an offer of employment is made.

Exclusivity of Service You are required to devote your full-time attention and abilities to your duties during working hours and to act in the best interests of the University at all times. Accordingly, you must not, without written consent of the University, undertake employment or engagement including external consultancy, which might interfere with the performance of your duties or conflict with the interests of the University.

It follows that, regardless of whether you are employed on a full-time or part-time contract, you are required to notify your line manager of any employment or engagement which you intend to undertake whilst in the employment of the University (including any such employment or engagement which commenced before your employment under this contract). Your line manager will then notify you within 10 working days whether such employment or engagement is prohibited.

References

Candidates should ensure that they provide full details of the name and postal address of their referees. Please include e-mail addresses and telephone numbers wherever possible.

Referees should include your present, or most recent, employer. References will normally be taken up immediately in respect of candidates shortlisted for interview. **If you do not wish any reference to be taken up at this stage, please enter an ‘X’ in the relevant box provided on the application form.**

Application Procedure:

All applications should be completed and submitted using the Harper Adams e-Recruitment programme at <http://jobs.harper-adams.ac.uk>

Closing date for applications is midnight on Friday 23rd March 2018