

Title of the post: Autonomous Farm Operations
[Full Time, Temporary up to 12 months]

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

Reporting to: Kit Franklin, Principal Investigator of HFF

The University

Background

Harper Adams University is the leading UK Higher Education (HE) institution university tackling the future development of the world's food production, animal sciences, engineering, land management and sustainable business.

Situated on a single campus in rural and scenic Shropshire, the University, and its surrounding area, provide an excellent working and living environment for staff and students alike, yet the University campus is only one hour from the UK's second city of Birmingham. Around 3,000 HE students attend the University, primarily on sandwich courses, which include a year-long industrial placement. Undergraduate and postgraduate degrees are offered. The University also welcomes individuals who wish to undertake CPD or similar professional training to support their careers in the agri-food chain and rural industries.

The University was founded by Thomas Harper Adams in 1901 on the original farmland of the Harper Adams Estate. The University estate includes amenity areas, woodland, and a commercial farm of 205 hectares; with rented land, the total area farmed is approximately 640 hectares, spread over several locations with cereals, potatoes, forage maize and grassland carrying a dairy herd, sheep, beef, pig and poultry units.

The Privy Council awarded taught degree awarding powers to Harper Adams in 1996 and research degree awarding powers in 2006. Full University Title was granted by Her Majesty's Privy Council in December 2012. The University changed its legal status to that of a Company Limited by Guarantee in July 2012 and remains one of a small number of Universities which are Registered Charities. Her Royal Highness The Princess Royal became the University's first Chancellor in 2013.

Academic Provision

The University offers a wide range of courses including Foundation and Honours degrees, in addition to shorter awards designed to meet the continuing professional development needs of those already in the workplace. The subjects are wide ranging and cover Agriculture, Applied Life Sciences, Animal Science and Health, Business, Countryside, Engineering, Food and Land & Property Management. The University has also focused on developing its postgraduate education and research and there are a growing number of postgraduate students at both diploma, masters and PhD level.

Harper Adams has built up an international reputation for the quality of its courses and has achieved the highest possible ratings in recent Quality Assurance Agency reviews, and holds a Gold Teaching Excellence Framework (TEF) award. There is active encouragement of research and the University took part in the last Research Excellence Framework (REF) exercise. 56% of our submitted research was rated either internationally excellent or world leading and 100% was rated of international quality. Our extensive

programme of research and education for professionals in the land-based and food chain sectors supports a high profile of business and community reach-out work, short course delivery for businesses and technology transfer activities supported by strong industry links and partnerships with companies including Saputo Dairy UK (formerly Dairy Crest), CLAAS and Ice Robotics.

Current high profile projects include the Hands Free Farm – following on from the world-first Hands Free Hectare autonomous farming success; controlled traffic farming and development of laser weeding.

Recognition

Harper Adams is consistently positioned highly in a range of national ratings, performance measures and league tables.

The University has been the highest performing modern university in The Times and Sunday Times Good University Guide for the last five years.

In the QS World Rankings for Agriculture and Forestry published in March 2020, Harper Adams was ranked, for the third time, as first in the UK for academic reputation and second in the world for its reputation with employers.

In the 2020 Whatuni? Student Choice Awards, based on student reviews, Harper Adams won the best job prospects category for a fifth year running.

The University is one of the UK's Top 10 for student satisfaction, based on the results of the National Student Survey, and number 1 for graduate employment based on the 2020 Graduate Outcomes survey.

Facilities

Harper Adams has extensive, well-equipped facilities and is constantly investing in its campus. Facilities include a range of modern teaching facilities and an extensive library, a variety of IT suites including an engineering design centre, newly extended laboratory facilities, a field laboratory and a livestock project centre, a glasshouse complex, an agricultural engineering unit with a large covered soil working area and a number of sustainable technology installations. New facilities opened since 2017 include new laboratories, an Agri-Tech Innovation Hub and SMART Dairy Unit. A Veterinary Education Centre is due to open in 2020, in support of existing programmes and the new Harper & Keele Veterinary School. Capital funding to support the development of many of these facilities has been provided through the work of the Development Trust. The University provides a range of training and professional development opportunities via its staff development programme.

Catering and Sports Facilities

The University's Students' Union operates a small gym and squash courts that staff may use on the payment of a nominal fee. The University has an open-air swimming pool bowling green and tennis courts that are available for staff use during the summer period. A variety of University catering outlets provide access to lunch facilities on campus.

For further details about the University, please visit our website:

<http://www.harper-adams.ac.uk>

The Role

Main duties and responsibilities;

- 1) To operate autonomous machinery both when conducting field work (crop production) and during system testing.
 - a. Set up and start machine operations
 - b. Monitor machines ensuring safe operations
 - c. Capture, record and share system data with research consortium

- 2) To plan and execute field work task (across 5 field and 35ha), in accordance with best agronomic practice and advisors
 - a. Use best practice and advice to plan field operations and timings
 - b. Organise equipment and inputs to be ready when required for field operations
 - c. Work with team to overcome issues prior to operations
- 3) To monitor crop development and report to agronomy team
 - a. Reporting growth stages, pest stress etc.
- 4) To assist in the development of autonomous machines
 - a. Work with development engineers to adapt and refine standard farm equipment to become autonomous capable

Personal Specification

	Essential	Desirable
Qualifications	Hold a degree in Agriculture or highly relevant subject	Highly desired to hold PA 1 and 2 certifications Hold Lantra qualifications (Rough Terrain Tele Lift Truck and Tractor + Attachments)
Experience	Experience working in mechanised agriculture, tractor operation etc.	Experience and an interest in Precision Farming systems (GPS, Variable Rate Etc.) Experience in mechanical machinery maintenance Experience in electronic system maintenance
Knowledge/Skills	A competent understanding of the contemporary Cereal Crop production process The candidate will have good written and verbal communication and presentation skills (use of MS Word, Excel and PowerPoint is essential).	Self-motivated with a proactive approach to work and the ability to apply knowledge to conduct autonomous crop production tasks.
Personal Qualities	Proactive team player who is prepared to help where required and assist others	

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 £21,814 to £23,754 per annum. The point of entry will be dependent upon relevant qualifications and experience. Salaries are paid monthly, in arrears, by credit transfer on the 28th day of the month.

Contract Term This is a temporary, full time post (up to 12 months). The employment may be terminated during the course of the contract by either party giving one months' notice in writing.

Hours of Work The routine working week is 37 hours over Monday to Friday, inclusive. There may be a requirement for overtime working from time to time and time off in lieu may be allowed for agreed hours worked in excess of 37 per week.

Holidays The annual holiday entitlement is 22 working days, plus 3 University closure days and Bank Holidays. Annual holiday entitlement rises to 25 working days with 5 years' service. 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 Harper Adams Group Pension Scheme and details will be provided to the successful applicant upon commencement of employment.

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.

Criminal Convictions The post involves the 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 this 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 are "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. The successful applicant will have to undergo a Criminal Records Bureau check before an appointment can be made.

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> **to be completed no later than midnight on Monday 28th June 2021**