UNIVERSITY OF LINCOLN
JOB DESCRIPTION

JOB TITLE	Post Doctoral Research Associate (PDRA) in Agri-Robotics				
DEPARTMENT	Lincoln Institute for Agri Food Technology (LIAT)				
LOCATION	Lincoln Campuses				
JOB NUMBER	CHS207	**GRADE**	7	**DATE**	Mar 2025
REPORTS TO	Prof Elizabeth Sklar				

CONTEXT

The University of Lincoln is seeking to appoint a Postdoctoral Research Associate (PDRA) in **Agricultural Robotic Systems**, covering **Robotics and Autonomous Systems** and **Human-Robot Interaction**. This posts sit within the Lincoln Institute for Agri-food Technology (LIAT), an interdisciplinary research centre in the university's College of Science, and the post is linked with the Lincoln Centre for Autonomous Systems (L-CAS). It is expected that the candidate will have a strong academic background in any of the following areas: **robotics, autonomous systems, multi-robot systems, human-robot interaction** and/or **in-field robotics**. Experience with physical robot systems is required. Experience with in-field systems (i.e. outside controlled lab environments) and/or human-robot interaction is desirable.

Applicants should hold a PhD or be near to completion and must be able to demonstrate an excellent track record in Robotics. Candidates are expected to have strong mathematical and programming skills (e.g. Python, C++), knowledge of computer vision, data mining and/or robotics tools (e.g. ROS/ROS2, OpenCV, scikit-learn, tensorflow, pytorch) and be able to work on group software projects using modern tools and environments (e.g. github, docker, Ubuntu). Specific interest in sustainable agri-food production is desirable, but experience in this domain is not required.

Successful candidates will be expected to design, conduct and manage original research in agricultural robotic systems, working directly with industry collaborators. Evidence of authorship of research outputs of international standing is essential, as is the ability to work collaboratively as part of a team, including excellent written and spoken communication skills. The position offers the opportunity to engage in collaboration within an ambitious team, to work with state-of-the-art equipment, and to benefit from excellent support to produce and disseminate original research contributions.

For informal enquiries about the post, please email Prof Elizabeth Sklar (esklar@lincoln.ac.uk). This is a part-time post (20% FTE) to the end of January 2026, with the option to extend and/or increase hours if additional grants are obtained.

The University of Lincoln is a leading centre in the UK for research into agri-food technology, particularly the application of AI and robotics to all areas of food production. Members of the College of Science participate in many collaborative research projects, funded by the UK Research Councils, Innovate UK and Horizon 2020. The University leads the £10.9m UKRI AI Centre for Doctoral Training in Sustainable Understandable agri-food Systems Transformed by Artificial INtelligence (SUSTAIN) and the £6.9m EPSRC Centre for Doctoral Training in Agri-Food Robotics (AgriFoRwArdS). LIAT is home to the world's first global centre of excellence in agricultural robotics, Lincoln Agri-Robotics, funded in 2019 with a £6.8m award from UKRI's

Research England under the UK Government's Expanding Excellence in England (E3) Fund. University facilities include an experimental farm and food factory, dedicated robotics research labs and workshops, agricultural fields, polytunnels and greenhouses, and a fleet of state-of-the-art agricultural robots. The posts will be based in LIAT at the Riseholme campus, about 5 miles from the Lincoln city centre.

JOB PURPOSE

The Post Doctoral Research Associate is responsible for conducting research on their assigned project(s), as directed by their supervisor, is expected to operate with a significant degree of autonomy, but not expected to operate as an independent researcher. The post holder may be given opportunities to help supervise the work of more junior researchers (e.g. masters students) and provide guest lectures in taught modules, guided by their supervisor.

The post is funded with support from an Innovate UK grant that focuses on establishing test procedures for regulating agricultural robotics activities within commercial grower settings. Some aspects of the role will be technical (development and testing of robotic processes) and some will be more related to social science (practical implementation of test processes within real-world settings). The PDRA will be expected to interact on a professional level with external industry partners, while collaborating internally with the dedicated team of interdisciplinary researchers within the university's College of Health & Science, particularly LIAT and L-CAS.

KEY RESPONSIBILITIES

Literature Surveys
Undertake literature surveys and other investigations of the state-of-the-art, and prepare reports as required.
Programme of Research
Undertake a programme of research under the direction of the Research Supervisor, demonstrating a significant level of autonomy. Lead in the production of high-quality research outputs, including software systems and documentation, experiment design and analysis, technical reports, papers and other publications of national/international standing.
Project Management
Perform self-management of project activities, including planning, scheduling, monitoring and regular reporting on progress.
Liaison and Networking
Identify and liaise with internal and external collaborators, and with colleagues in the College, maintaining positive and effective working relationships.
Internal Research Activities
Participate in and help to organise internal research activities, including seminars, research meetings and conferences.
Continuous Professional Development
Undertake continuous professional development activities.
Grant Applications
Contribute to the production of grant applications.
Teaching Support
Potentially engage in teaching support activities, up to a maximum of six hours per week and for no more than two modules per annum. Aid in the supervision of postgraduate research students.

In addition to the above, undertake such duties as may reasonably be requested and that are commensurate with the nature and grade of the post.

ADDITIONAL INFORMATION

Scope and dimensions of the role
This is a research focussed role.

Key working relationships/networks	
Internal	**External**
• Research Supervisor (Line Manager) • Heads of Research Centres (Research Director of LIAT and Director of L-CAS) • Head of School (SAFTMan) and Director of LIAT • Other research and academic staff within the school • Administrative and technical staff within the school	• Research collaborators, relevant academic and professional groups • Sponsors and clients, relevant national, regional and international networks in the Robotics, Intelligent Systems and/or Agri-food communities

UNIVERSITY OF LINCOLN
PERSON SPECIFICATION

JOB TITLE	Post Doctoral Research Associate	**JOB NUMBER**	CHS207

Selection Criteria	**Essential (E) or Desirable (D)**	**Where Evidenced Application (A) Interview (I) Presentation (P) References (R)**
Qualifications:		
PhD or equivalent (good candidates may be accepted with a PhD pending, subject to publication record)	**E**	**A**
Extensive knowledge specific to one or more of the following areas: **robotics, autonomous systems, multi-robot systems, human-robotic interaction**	**E**	**A/I**
Experience:		
Evidence of significant activity in one or more of the following areas: **robotics, autonomous systems, multi-robot systems, human-robot interaction**	**E**	**A/I**
Extensive experience of relevant research methods	**E**	**A/I**
Authorship of research outputs of national/international standing (academic conferences and journals)	**E**	**A/I**
Interest in the application of intelligent robotic systems to food production systems, agriculture and/or horticulture	**E**	**A/I**
Interdisciplinary work relevant to intelligent agri-tech systems	**D**	**A/I**
Working with industry partners to form long-term mutually beneficial partnerships	**D**	**A/I**
Teaching support	**D**	**A/I**
Skills and Knowledge:		
Advanced skills in at least one programming language (e.g. C/C++, Python) and software tools/environments (e.g. github, Ubuntu) commonly used for research computing	**E**	**A/I**
Advanced knowledge of numerical methods, data structures and algorithms	**D**	**A/I**
Understanding of relevant high-performance computing, cloud computing, virtualisation and container technologies	**D**	**A/I**
Expertise in two or more specialist tools related to the project, i.e. robotics and computer vision: ROS/ROS2, OpenCV, scikit-learn, tensorflow, pytorch	**E**	**A/I**
Knowledge of technologies and their respective strengths and weaknesses for the development of data handling and data-backed applications	**D**	**A/I**
Experience designing and implementing experiments with in-field robotic and/or human-robot systems, and analysing results	**E**	**A/I**
Ability to design, conduct and manage project-based original research in the relevant subject area	**E**	**A/I**

Excellent written communication, including the ability to write reports and research outputs	**E**	**A/I**
Ability to prioritise own workload and work to specified deadlines under pressure	**E**	**A/I**
Ability to communicate complex subjects orally	**E**	**A/I**
Skills specific to project/area	**E**	**A/I**
Competencies and Personal Attributes:		
Flexible approach to workload	**E**	**I**
Ability to work on own and as part of a team	**E**	**I**
Enthusiasm for and serious commitment to high-quality research	**E**	**I**
Good interpersonal skills	**E**	**I**
Strong attention to detail	**E**	**I**

Essential Requirements are those, without which, a candidate would not be able to do the job. **Desirable Requirements** are those which would be useful for the post holder to possess and will be considered when more than one applicant meets the essential requirements.

Author	Elizabeth Sklar	**PBP**	AH