

PhD Project Advertisement

Project title: *Using AI to manage multi-species grassland for livestock farming*

Project No: FBS25-73-Parsons-lr

Lead supervisor: Professor Simon Parsons, Lincoln Institute of Agri-Food Technology (LIAT), University of Lincoln

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Co-supervisors:

Dr Zoe Barker, Department of Animal Sciences, University of Reading

Professor Elizabeth Sklar, Lincoln Institute for Agri-Food Technology (LIAT), University of Lincoln

Project description: Producing plant matter for animal food is important for livestock farming, both for grazing and for making silage. This is typically done by growing fields of rye grass. Switching to a range of species, typically including other grasses, legumes like clover, and herbaceous plants like wildflowers, has benefits for the ecosystem and for the animals. The benefits for the ecosystem include improving soil quality, drought tolerance and biodiversity. The benefits for animals include better health and less methane emissions. However, farmers are wary of growing multi-species grasslands because they do not understand how best to manage them. This project will gather evidence on management practice from ongoing work with multi-species grasslands, and use AI to analyse this evidence and present it farmers to help them manage their land.

Training opportunities: The successful applicant will receive training in AI techniques, the use of the robotic and drone-based technologies which can be deployed in the field to obtain data on grassland, on field work elements like quadrat sampling and species identification, and on laboratory analysis. They will also undertake training in the responsible and ethical uses of AI.

Project supervision style: An online meeting with the entire supervisory team will be held once a month, and the lead supervisor will meet with the student weekly. These will be 1:1 in the sense that the DTP student will be the only student in those meetings (they will not be lab group meetings). Additional meetings with the wider supervisory group may be scheduled when appropriate (for example for planning field work during the growing season) and the student will participate in lab/group meetings where that is helpful for them. The lead supervisor has a longstanding policy of providing feedback on student paper drafts within 48 hours (in practice the turnaround is typically less). A schedule for feedback on thesis drafts (and sections thereof) varies depending on what exactly is being reviewed, but a schedule is agreed in advance.

Student profile: This project will be of interest to candidates with either a background in agriculture or agricultural technology who are interested in artificial intelligence / machine learning, or to candidates with a background in artificial intelligence / machine learning who are interested in agriculture.

Stipend (Salary):

FoodBioSystems DTP students receive an annual tax free stipend (salary) that is paid in instalments throughout the year. For 2024/25 this is £19,237 (£21,237 at Brunel University) and it will increase slightly each year at rate set by UKRI.

Equity Diversity and Inclusion:

The FoodBioSystems DTP is committed to equity, diversity and inclusion (EDI), to building a doctoral researcher(DR) and staff body that reflects the diversity of society, and to encourage applications from under-represented and disadvantaged groups. Our actions to promote diversity and inclusion are detailed on the [FoodBioSystems DTP website](#) and include:

- Offering reasonable adjustments at interview for shortlisted candidates who have disclosed a disability or specific learning difference.
- [Guaranteed interview](#) and [applicant mentoring](#) schemes for applicants, with UK home fees status, from eligible under-represented ethnic groups.

These are opt-in processes.

Our studentships are offered on a part time basis in addition to full time registration. The minimum registration is 50% FT and the studentship end date will be extended to reflect the part-time registration.

For up to date information on funding eligibility, studentship rates and part time registration, please visit the [FoodBioSystems website](#).