

PhD Project Advertisement

Project title: *Rethinking Animal Farming for Healthy Diets and a Healthy Planet*

Project No: FBS25-69-Wright-qr

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Co-supervisors:

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Project description: Background

Foods like meat, milk, and eggs are a big part of many people's diets. They provide protein and important nutrients that help us stay healthy. But farming animals can harm the environment. It uses land and water and produces greenhouse gases. It's clear that farming needs to change to provide healthy food while protecting the planet.

We also know that how animals are raised—on grass or with grains—affects the quality of the food they produce. But we don't fully understand how this impacts human health when people eat these foods as part of a balanced diet. It's also not clear what happens if we shift towards eating more food from sustainable farming systems across the UK. This project will look at these questions to find ways to help people eat better and farm in a way that is good for the planet.

Research Aims

This project will explore how changes in animal farming can:

- Provide healthy and nutritious food.
- Reduce harm to the environment.
- Support animals' well-being as part of a One Health Approach (linking the health of humans, animals, and the planet).

What the Student Will Do

- 1) Understand the Science - the student will begin by reviewing what is already known about the health and environmental impacts of animal farming. This will include studying different ways animals are fed (grass-fed, grain-fed, and others).
- 2) Collect and Analyze Data - this is the core of the project. The student will gather data from health surveys and studies on diets in the UK. They will also look at information on farming systems and environmental impacts. Using this data, they will create statistical computer models to explore:
 - How switching to more sustainable animal farming could change diets.
 - What these changes mean for health and the environment.
- 3) Work with People - The student will carry out surveys and focus groups to understand what people think about these farming systems. They will look at what might stop people from making changes and find ways to encourage them to choose sustainable foods.

Why It Matters

The results will show how farming can adapt to provide healthy food without harming the planet. It will also help policymakers and farmers plan for a future where food is both good for people and kind to the environment.

Training opportunities: This project offers extensive training to build skills in statistics, programming, and research methods. In the first year, the student will take a Masters-level module on Statistics in Public Health and Medical Research at QUB. This will provide key techniques for comparing dietary model results. Dietary modelling will be performed using the programming language R. To support this, the student will complete an intensive one-month course on Data Handling and Reproducible Research in R, coordinated by Dr. Wright. They will learn to process large datasets, use version control, and develop a project code repository on GitHub to showcase their programming skills. Additional training in dietary survey methods or qualitative research can be arranged based on the student's background. They will also be encouraged to apply for leadership training through the European Nutrition Leadership Platform and attend Scientific Advisory Committee on Nutrition sessions to learn about translating research into policy.

Project supervision style: Initially the student and primary supervisor will meet weekly; at later stages of the project the meetings will be monthly. There is an active nutrition research group at Queen's University Belfast which spans the Centre for Public Health and the Institute for Global Food Security at the School of Biological Sciences and within the Hugh Sinclair Unit of Human Nutrition, School of Chemistry Food and Pharmacy, UoR. The student would be integrated into these groups, attending seminars and other linked events. The student will have the opportunity to spend time at UoR to work more closely with Professor Lovegrove during the attitudinal survey phase of the project and when modelling cohorts sourced from Reading.

Student profile: The project focuses on developing computer models so previous experience handling and analysing data, especially using a programming language like R or Python, will be valuable.

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](#).