



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Plant Protein Quality and Digestibility, School of Food Science & Nutrition



Salary: Grade 7 (£ 41,064 – £48,822 p.a.)

Reference: ENVFS1169

Fixed-term for 24 months from 1st December 2026 to complete specific time limited work.

We will consider job share / flexible working arrangements

Research Fellow in Plant Protein Quality and Digestibility, School of Food Science and Nutrition, Faculty of Environment

Are you an ambitious researcher with expertise in plant proteins, food or feed science, and *in vitro* digestion? Do you want to apply advanced analytical methods to help strengthen European protein autonomy and develop more sustainable feeds for pigs, poultry and fish?

We are seeking a Research Fellow to join the University of Leeds team on PROFEED (Progressive Solutions for European Feed Autonomy through Sustainable Plant Protein Value Chains), a Horizon Europe project bringing together 15 partners across eight countries. PROFEED aims to reduce reliance on imported soybean meal by identifying resilient European protein crops, improving their processing and nutritional quality, and validating sustainable feed formulations.

The University of Leeds leads protein-quality profiling across the project's dry-crop, fresh-crop and feed-formulation work packages. You will work primarily on the compositional, structural, techno-functional and nutritional characterisation of plant protein crops, ingredients and feed formulations; assessment of antinutritional factors; and application of *in vitro* digestion models to determine protein digestibility and quality. The crop portfolio includes soybean, lupin and alfalfa, alongside other legumes and forage crops selected during the project. You may also be involved in the delivery of an *in vivo* validation trial at the National Pig Centre, e.g. through analysis of samples and data.

You will work with Associate Professor Dr Christine Bosch (PROFEED lead) and Dr Alan Javier Hernandez Alvarez, and colleagues at the University of Leeds, collaborating closely with project partners responsible for crop production, processing, feed formulation, fish and poultry studies, and the University of Leeds National Pig Centre.

You will have a PhD or near completion in Food Science, Food Technology, Animal Nutrition, Biochemistry, Biological Sciences, Chemical Engineering or a closely related discipline, together with strong research experience in plant protein characterisation and in the nutritional assessment of plant-derived ingredients, foods or feeds. You will have practical experience of protein analysis using relevant techniques and of *in vitro* protein digestion and digestibility assessment, with the ability to critically select, adapt and validate methods for the intended biological context.



You will also have a positive attitude to collaborative research and the drive to make a significant contribution to making this ground-breaking project a success.

Main duties and responsibilities

- Planning and delivering the University of Leeds experimental programme for characterising plant crops, protein ingredients and feed formulations produced across PROFEED;
- Establishing, optimising, validating and documenting robust analytical workflows for plant protein content, composition, structure, functionality, digestibility and quality;
- Determining proximate composition and protein concentration, and coordinating or undertaking amino-acid profiling and calculation of appropriate protein-quality indices;
- Assessing techno-functional properties relevant to ingredient processing and feed formulation, such as protein solubility, water- and oil-holding capacity, emulsifying and foaming behaviour, gelation, particle size and relevant texture or rheological properties;
- Assessing antinutritional factors in crops, protein ingredients and feeds using appropriate validated methods; interpret their implications for nutritional quality, processing decisions and safe inclusion in feed formulations;
- Applying and, where required, adapting *in vitro* digestion models to assess protein digestibility of crops, processed ingredients and formulations for target livestock species, with particular emphasis on the project pig model and collaboration on poultry and fish models;
- Relating *in vitro* digestibility and analytical results to outcomes from animal trials, including feed conversion, growth, health and carcass or product-quality measures, in collaboration with the relevant partners;
- Generating high-quality, traceable data; carry out statistical analysis and multivariate interpretation; maintain accurate laboratory records; and prepare harmonised datasets and metadata for the PROFEED Digital Platform;
- Preparing manuscripts for leading peer-reviewed journals and communicating findings through conferences, seminars, stakeholder activities and project dissemination channels;
- Working independently and as part of a multidisciplinary, international consortium, coordinating sample transfer, analytical schedules, protocols and results across partner organisations;



- Supporting the day-to-day operation of the research programme, including laboratory risk assessments, COSHH documentation, quality assurance, procurement and safe use and maintenance of equipment;
- Contributing to supervision and training of undergraduate and postgraduate researchers in methods relevant to the project and to the wider research culture of the School;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required, consistent with the grade of the post.

Qualifications and skills

Essential

- A PhD (or near completion, i.e. the initial thesis needs to have been handed in at the point of appointment) in Food Science, Food Technology, Animal Nutrition, Biochemistry, Biological Sciences, Chemical Engineering or a closely allied discipline.
- Strong research experience in plant protein characterisation and in the nutritional assessment of plant-derived ingredients, foods or feeds.
- Practical experience of protein analysis using relevant techniques, e.g. protein determination, amino acid analysis, SDS-PAGE, spectrophotometric assays, chromatography or protein-structure methods.
- Practical experience of *in vitro* protein digestion and digestibility assessment, with the ability to critically select, adapt and validate methods for the intended biological context.
- Knowledge and practical experience of assessing antinutritional factors in plant materials and interpreting their nutritional significance.
- Experience of measuring techno-functional properties of proteins or protein-rich ingredients, supported by sound understanding of protein chemistry and the effects of processing.
- Evidence of the ability to design and deliver rigorous experimental research, analyse complex datasets using appropriate statistical methods, interpret results critically and troubleshoot laboratory methods.
- A developing record of peer-reviewed publications in international journals.



- Excellent written and verbal communication skills, including the ability to present complex results clearly to academic, industry and non-specialist audiences.
- Effective planning and project-management skills, with the ability to prioritise competing demands, meet deadlines and work independently without close supervision.
- A proven ability to work constructively individually and part of multidisciplinary and multicultural teams and to collaborate across organisations.
- A strong commitment to your own continuing professional development;

Desirable

- Experience of calculating and interpreting protein-quality measures, amino-acid scores or digestibility-corrected indices, with awareness of their appropriate application to animal-feed research.
- Experience of research involving industry, farms, livestock researchers, international consortia or EU-funded collaborative projects.
- Experience supervising or training students or junior researchers and contributing to laboratory method development or standard operating procedures.
- Experience of working with industry on protein chemistry, chemical processing, food colloids, physical chemistry or related project.

Additional information

Please note: If you are not a British or Irish citizen, from 1 January 2021 you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen and resident in the UK before 31 December 2020, this may be your passport or status under the EU Settlement Scheme.

Please note that this post may be suitable for sponsorship under the Skilled Worker visa route but first-time applicants might need to qualify for salary concessions. For more information please visit: www.gov.uk/skilled-worker-visa

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information please visit: <https://www.gov.uk/global-talent>

Find out more about the [School of Food Science and Nutrition](#).

Find out more about the [Faculty of Environment](#).



Working at Leeds

We are a campus-based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our [Working at Leeds](#) information page.

Our University

As an international research-intensive university, we welcome students and staff from all walks of life. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. Within the School of Food Science & Nutrition we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian, those who belong to a minority ethnic community; people who identify as LGBT+; and disabled people. Candidates will always be selected based on merit and ability

The Faculty of Environment has received a prestigious Athena SWAN silver award from [Advance HE](#), the national body that promotes equality in the higher education sector. This award represents the combined efforts of all schools in the Faculty and shows the positive actions we have taken to ensure that our policies, processes and ethos all promote an equal and inclusive environment for work and study.

Information for disabled candidates

Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found under the 'Accessibility' heading on our [How to Apply](#) information page or by getting in touch by [emailing HR via hr@leeds.ac.uk](mailto:hr@leeds.ac.uk).

Criminal record information

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our [Criminal Records](#) information page.

