



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Bioactive Encapsulation and Delivery

Faculty of Environment



Salary: Grade 7 (£37,099 – £44,263 p.a.) This role cannot be appointed above £41,732 p.a. due to funding restrictions.

Reference: ENVFS1103

This post is fixed-term for 11 months, available from 1st May 2024

We will consider job share / flexible working arrangements

Research Fellow in Bioactive Encapsulation and Delivery, School of Food Science and Nutrition, Faculty of Environment

Are you an ambitious researcher looking for your next challenge? Do you have an established background in plant bioactive research with experience in bioactive encapsulation, stability, and targeted release? Are you interested in the translation of research into real-world applications to benefit animal health and productivity?

We are looking for a postdoctoral researcher to join our research team to investigate the benefits of plant bioactive compounds on animal productivity in a collaborative project with academic and industrial partners. The project addresses the huge wastage of plant crops that occurs at present at the farm production and processing stage, through the development of innovative and sustainable valorisation strategies that convert agri-food waste streams into next-generation feed additives to increase animal health and productivity.

In particular, you will focus on the encapsulation and targeted release of bioactives paired with functional biopolymers and work with our industrial partners on sourcing the bioactives and biopolymers as well as the scale-up of selected bioactive fractions as feed ingredients. The efficacy of the developed formulations towards improving gut health and animal health will be evaluated in subsequent feeding experiments at the National Pig Centre, University of Leeds Spen Farm. It is expected that you will contribute to the delivery of the trials and the analysis of biological samples.

The project combines different academic disciplines, including food chemistry, biopolymer and food colloids, animal production, molecular nutrition, and it comprises a consortium of several industrial and academic partners in the agri-food space.

You will have a strong background in experimental plant bioactive i.e. polyphenol research, with good analytical skills, e.g. chromatography and bioactivity screening, and knowledge of intestinal availability and metabolism. You will also have experience in different approaches to encapsulate and stabilise bioactives and determine gastrointestinal release.



What does the role entail?

As a Research Fellow, your main duties will include:

- Conducting experimental research to encapsulate bioactive samples and extracts with selected biopolymer wall materials, and to analyse these for their intestinal stability, bioactivity, and release characteristics;
- Analysis of target bioactive compounds using HPLC/LCMS based methodologies;
- Mapping the feasibility of green recovery strategies for food bioactives from plant food waste streams and their scale-up;
- Contribute to the delivery of feeding trials at National Pig Centre and in collaboration with industrial partners;
- Analysis of biomarkers in biological samples to determine the efficacy of feeding trials to improve gut and systemic health;
- Generating and pursuing independent and original research and innovation ideas within the scope of the project and beyond;
- Delivering research objectives and contributing to setting the direction of the research project and team;
- Preparing papers for publication in leading international journals and disseminating research results through seminars and conferences;
- Working both independently and also as part of a larger team of academic and industry researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with supervising projects in areas relevant to the project.

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.

What will you bring to the role?

As a Research Fellow you will have:

- A PhD (or have submitted your final thesis before taking up the role) in Food Chemistry, Food Colloids, Biopolymers, Pharmacy and Pharmaceutical Technology, Food Science and Nutrition, or a closely allied discipline;



- A strong background in experimental plant bioactive i.e. polyphenol research with good analytical skills, e.g. chromatography and bioactivity screening, and knowledge of intestinal availability and metabolism;
- Good experience in different approaches to encapsulate and stabilise bioactives and determine gastrointestinal release;
- Good time management and planning skills, with the ability to meet tight deadlines, manage competing demands and work effectively under pressure without close supervision;
- A proven track record of peer-reviewed publications commensurate with career stage;
- Excellent written and verbal communication skills, including presentation skills;
- A proven ability to work well both individually and in a team;
- A strong commitment to your own continuous professional development.

You may also have:

- Experience in biological applications to determine bioefficacy of feed formulations;
- Experience of working with animals
- Experience in biochemical and molecular methods to determine in vivo biomarkers of gut and systemic health;
- Experience in working with industry;
- Experience of pursuing external funding to support research.

How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

Contact information

To explore the post further or for any queries you may have, please contact:

Dr Christine Bosch, Associate Professor in Nutrition

Email: c.bosch@leeds.ac.uk



Additional information

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

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

A diverse workforce

The Faculty of Environment is proud to have been awarded the [Athena SWAN Silver Award](#) from the Equality Challenge Unit, the national body that promotes equality in the higher education sector. Our [equality and inclusion webpage](#) provides more information.

Working at Leeds

Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on our [Working at Leeds](#) information page.

Candidates with disabilities

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our [Accessibility](#) information page or by getting in touch with us at disclosure@leeds.ac.uk.

Criminal record information

Rehabilitation of Offenders Act 1974

A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

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.

