UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Lubrication of Sustainable Food Formulations, School of Food Science and Nutrition

Salary: Grade 7 (£37,099 – £44,263 p.a.)

The maximum salary to be offered is £40,522 p,a, due to funding restrictions

Reference: ENVFS1080

Fixed-term for 18 months from 1st November 2023

We will consider job share / flexible working arrangements

Research Fellow in Lubrication of Sustainable Food Formulations,
School of Food Science and Nutrition

Are you an ambitious researcher looking for your next challenge? Do you have an established background in food colloid science and interests in designing novel plant protein-based formulations with optimized mouthfeel and haelth benefits to develop sustainable food products? Are you interested to explore the innovation potential of a scientific discovery to bring the research to marketplace by working with food industry stakeholders? Do you want to further your career in one of the UK's leading research-intensive universities?

What does the role entail?

We are looking for an Innovate UK-funded Postdoctoral Research Fellow to join a highly dynamic, interdisciplinary team; focusing on surface science techniques and friction force measurements to investigate lubrication of plant protein-based fibre-rich formulations. You will actively collaborate with experts in the School of Food Science and Nutrition from colloid science and microbiology and with commercial food industrial stakeholders (large as well as small-scale industries).

You will work on designing new plant protein-based lubricant formulations and test their technical feasibility in commercial fibre-rich food formulations. This will involve integrating macroscale friction force measurements, surface science knowledge, advanced imaging and other colloid science techniques to gain mechanistic information on the nature of the processes occurring in complex human oral mucosa. In particular, you will conduct research on biological tissues, such as mucins from animal origin as well as plant proteins and fibres that are widely used in sustainable food formulations.

You will have a PhD (or have submitted your final thesis) in Food Colloid Science, Soft Matter, Biophysics, Chemistry, Mechanical Engineering or a related discipline, and extensive knowledge and experience of force measurement and surface modification. You will also have a positive approach to collaborative research and the drive to make a significant contribution to make this ground breaking project a success.



As a Research Fellow, your main duties will include:

- Designing, planning and conducting a programme of investigation on optimizing lubrication of plant protein-based formulation and upscaling, in consultation with Prof Anwesha Sarkar;
- Seeking opportunities to develop food formulations in collaboration with relevant commercial stakeholders to accelerate commercialization of the scientific discovery;
- Generating independent and original research ideas and methods in surface science and aqueous lubrication, with an aim to extend the oral processing research portfolio;
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;
- Preparing papers for publication in leading international journals and disseminating research results through recognised national and internal conferences and other industrial events;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of 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 Research Fellow, you will have:

- A PhD (or have submitted your final thesis before taking up the role) in Food Colloids, Soft Matter, Chemistry, Biophysics, Mechanical Engineering or a related discipline;
- Experience in experimental formulation science by appropriate experimental design and measuring tribological properties;
- Theoretical knowledge of biopolymer-surface interactions;



- Experience in combining the results of multiple approaches across different disciplines to develop new insights into a field of study;
- The ability to design, execute and write up research independently;
- A proven track record of peer-reviewed publications in high quality journals;
- Excellent written and verbal communication skills including presentation skills;
- Good time management and planning skills, with the ability to meet tight deadlines;
- A proven ability to work well both independently and as part of a team;
- The ability to work accurately and carefully;
- A strong commitment to your own continuous professional development.

You may also have:

- Experience in running food sensory trials and relevant statistical tests;
- Experience in surface adsorption measurements, surface chemistry techniques and advanced colloid science techniques;
- Experience in conducting trials of food prduct development and consideration of variables;
- Understanding of patent and protecting intellectual property.

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:

Prof Anwesha Sarkar, Professor of Colloids and Surfaces
Email: A.Sarkar@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.