



UNIVERSITY OF LEEDS

## CANDIDATE BRIEF

Research Fellow in Aqueous Lubrication, Faculty of Environment



**Salary: Grade 7 (£33,797 – £40,322 p.a.)** Due to funding limitations, it is unlikely that an appointment will be made above £34,804

**Reference: ENVFS1010**

**Fixed-term for 18 months from 1<sup>st</sup> September 2020**

**We will consider job share / flexible working arrangements**

# Research Fellow in Aqueous Lubrication

## 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 surface science and interests in designing novel aqueous lubricant formulations? Are you interested to explore the innovation potential of a scientific discovery to bring the research closer to commercialisation? Do you want to further your career in one of the UK's leading research-intensive universities?**

We are looking for a European Research Council (ERC) Proof-of-Concept funded Postdoctoral Research Fellow to join a highly dynamic, interdisciplinary team; focusing on surface science techniques and friction force measurements in order to investigate aqueous lubrication. You will actively collaborate with experts in the Institute of Process Research & Development, School of Chemical and Process Engineering, and industrial stakeholders. Working alongside two other postdoctoral Research Fellows, you will be part of a project designing aqueous lubricant formulations for soft biological and bio-relevant polymeric surfaces.

You will work on designing new aqueous lubricant formulations and test their technical and commercial feasibility. This will involve integrating 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, proteins and other biopolymers.

You will have a PhD in Soft Matter, Biophysics, Food Science, Nanotechnology, Material Science, Mechanical or Chemical Engineering or a related discipline, and extensive knowledge and experience of friction force measurement and surface chemistry. 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.



## What does the role entail?

As a Research Fellow, your main duties will include:

- Designing, planning and conducting a programme of investigation on aqueous lubrication formulation and upscaling, in consultation with Dr Anwesha Sarkar;
- Seeking opportunities to protect intellectual properties and involve relevant industrial 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 in Soft Matter, Biophysics, Food Science, Nanotechnology, Material Science, Mechanical or Chemical Engineering or a related discipline;
- Experience in experimental formulation science by using appropriate experimental design and measuring surface properties using relevant techniques;



- Theoretical knowledge of aqueous lubrication research in soft materials;
- 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 impact factor 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 working with industries (FMCGs, SMEs) with challenging timelines;
- Experience of protecting an intellectual property (patent, trademark etc.);
- Experience in surface adsorption measurements, surface chemistry techniques and advanced colloid science techniques;
- Experience in conducting upscaling trials of formulation and consideration of variables;
- Experience in nanoscale instrumentation (atomic force microscopy, quartz crystal microbalance);
- Knowledge of contact mechanics, rheology or tribology;
- Evidence 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 Anwesh Sarkar, Associate Professor of Food Colloids**

Tel: +44 (0)113 343 2748

Email: [A.Sarkar@leeds.ac.uk](mailto:A.Sarkar@leeds.ac.uk)

## Additional information

### A diverse workforce

The Faculty of Environment has received a prestigious Athena SWAN bronze 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 policies, processes and ethos all promote an equal and inclusive environment for work and study.

### 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](mailto: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.

