UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Oral Lubrication at Nanoscale, School of Food Science and Nutrition

Salary: Grade 7 (£32,548 – £38,833 p.a.)

Due to funding limitations it is unlikely that an appointment will be made above £34,520

Reference: MAPFS1064

Closing date: 12 December 2017

Fixed-term for three years

We will consider job share/flexible working arrangements

Research Fellow in Oral Lubrication at Nanoscale
School of Food Science and Nutrition, Faculty of Mathematics and Physical Sciences

Are you an ambitious researcher looking for your next challenge? Do you have an established background in biophysics and force measurements at nano-scale? 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) Starting Grant funded postdoctoral Research Fellow to join a highly dynamic, interdisciplinary team focusing on applying dynamic force measurements and surface science techniques to investigate oral lubrication at the nanoscale. You will actively collaborate with experts in the School of Physics and Astronomy, and working alongside another postdoctoral Research Fellow, you will be part of a project investigating the true mechanism of human saliva and food biomolecule-mediated oral lubrication at nanoscale.

You will work on designing new approaches to measure lubrication in soft bio-relevant polymeric surfaces. 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 real human saliva, mucins from animal origin, proteins and other biopolymers.

You will have a PhD in Biophysics, Soft Matter, Nanotechnology 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.

What does the role entail?

As Research Fellow your main duties will include:

- Designing, planning and conducting a programme of investigation, in consultation with Dr Anwesha Sarkar;
- Generating independent and original research ideas and methods in surface science and oral lubrication at the nanoscale, with an aim to extend the oral



processing research portfolio;

- Making a significant contribution to the dissemination of research results by publication in leading peer-reviewed journals, and by presentation at national and international meetings;
- Working independently and as part of a larger team of researchers, both internally and externally to develop new research links and collaborations and engage in knowledge transfer activities where appropriate;
- Contributing to the supervision of junior researchers and PhD students and acting as a mentor to less experienced colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and relating such evaluations to your own research;
- Contributing to, and encouraging, a safe working environment.

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 Biophysics, Soft Matter, Nanotechnology or a closely allied discipline;
- Experience in instrumental design and measuring forces at the nanoscale;
- Experience in signal processing and developing software for fitting biophysical data and data management;
- Theoretical knowledge of nanoscale 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 developing track record of peer reviewed publications in international journals;
- Excellent communication skills, both written and verbal, and the ability to communicate your research at national and international conferences;
- 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 developing atomic force microscopy (AFM) based instrumentation;
- Experience in surface adsorption measurements, surface chemistry techniques and advanced colloid science techniques;
- Experience in photo/e-beam lithography techniques and working in a clean room;
- Experience in developing instrumentation and new methods at nanoscale;
- 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 Anwesha Sarkar, Associate Professor of Food Colloids
Tel: +44 (0)113 343 2748
Email: A.Sarkar@leeds.ac.uk

Additional 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.

A diverse workforce
The Faculty of Mathematics and Physical Sciences is proud to have been awarded the Athena SWAN Bronze 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.



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.