



UNIVERSITY OF LEEDS

## CANDIDATE BRIEF

**Research Fellow in Surface Science for Sustainable Energy Solutions**  
**Faculty of Engineering and Physical Sciences**



**Salary: Grade 7 (£38,025 – £45,585 p.a.)**

**Reference: EPSPE1113**

**Closing date: Sunday 01 September 2024**

**Fixed-term for up to 2 years**

**We are open to discussing flexible working arrangements**

## Research Fellow in Surface Science for Sustainable Energy Solutions, School of Chemical and Process Engineering.

**Are you a surface scientist looking to develop a career in energy research with societal impact? Are you interested in surface analysis with a world-leading near-ambient pressure X-ray photoelectron spectroscopy facility? Do you want to be part of an interdisciplinary research team developing solutions for sustainable transportation? Do you want to further your career in one of the UK's leading research-intensive Universities?**

The academic team at the University of Leeds is looking to recruit an experienced surface scientist to join a multi-institution research collaboration with Infineum UK Ltd, bringing together several UK universities and a globally leading specialty chemicals company. You will be responsible for delivering the research activities at the University of Leeds and will contribute to the overall coordination of the collaborative research projects in the fields of decarbonised transport, magnetorheological fluids and batteries. You will undertake research visits, develop new research ideas and deliver results collaboratively. This position is intended for an ambitious researcher to build a leadership profile, by developing an original research portfolio with both academic and real-world impact through collaborations with PhD students and external partners.

We are seeking to employ a Research Fellow with a track record in applying state-of-the-art laboratory and synchrotron-based surface science techniques to reveal the physicochemical basis of surface chemistries taking place at solid/liquid interfaces. Using *in situ* and *operando* you will determine how surface chemical processes combine to determine the properties and performance of multi-component formulated products, both under conditions of use and their production.

You will build on an established industrial collaboration that has in the past focused on *in situ* and *operando* studies for the development of transportation additives and nanoparticles for protecting surfaces, reducing friction and minimizing surface wear. This collaboration is now developing towards new sustainable energy applications, with new classes of sustainable specialty chemical formulations. You will provide leadership in training of a growing team and collaborate with other surface and interface science research projects that make use of the advanced X-ray analysis infrastructure at Leeds and Diamond Light Source.





## What does the role entail?

As a Research Fellow, your main duties will include:

- Conducting independent research to support and develop collaborations including the preparation of technical reports, technical presentations of advanced research findings, explaining how this will be of commercial benefit;
- Generating and pursuing independent and original research ideas in the appropriate subject area;
- 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;
- 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;
- Proactively interacting with academic groups from a variety of complementary disciplines and work as part of a coordinated research network;
- 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;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own research;
- 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 a Research Fellow, you will have:

- A PhD (or have submitted your thesis before taking up the role) and/or postdoctoral experience in surface science;
- A strong background in experimental surface analysis, including experience in using X-ray photoelectron spectroscopy (XPS);
- Good time management and planning skills, with the ability to meet tight deadlines and manage competing demands effectively without close support;
- 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;
- A proven ability to work well both independently and in a team;
- A strong commitment to your own continuous professional development, congruent with an ambition to become a research leader in your field.

You may also have:

- A background in colloid science;
- Experience with studying deposition using a quartz crystal microbalance;
- Characterised solids and/or liquids with neutrons and/or synchrotron X-rays;
- Carried out characterisation of materials *in situ* and/or *operando*;
- Experience in writing research proposals.

## 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:

**[Professor Sven Schroeder](#)**, Bragg Centenary Chair

Email: [S.L.M.Schroeder@leeds.ac.uk](mailto:S.L.M.Schroeder@leeds.ac.uk)

OR

**[David Harbottle](#)**, Associate Professor

Email: [D.Harbottle@leeds.ac.uk](mailto:D.Harbottle@leeds.ac.uk)

## Additional information

### Faculty and School Information

Further information is available on the research and teaching activities of the [Faculty of Engineering & Physical Sciences](#), and the [School of Chemical and Process Engineering](#)

### A diverse workforce

As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. Within the Faculty of Engineering and Physical Sciences 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 and ethnically diverse people; people who identify as LGBT+; and people with disabilities. Candidates will always be selected based on merit and ability.

The Faculty of Engineering and Physical Sciences are 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**

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.

## **Information for disabled candidates**

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

## **Salary Requirements of the Skilled Worker Visa Route**

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](http://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>.

