



UNIVERSITY OF LEEDS

## CANDIDATE BRIEF

**Research Fellow in Designing Flow Processes for Emulsion Droplet Coatings, Faculty of Engineering and Physical Sciences**



**Salary: Grade 7 (£38,205 – £45,585 p.a.)**

**Reference: EPSPE1112**

**Location: Leeds campus**

**Closing date: Monday 02 September 2024**

**Fixed-term for 2 years**

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

## **Research Fellow in Designing Flow Processes for Emulsion Droplet Coatings, School of Chemical and Process Engineering.**

**Are you a driven early-career researcher with interests in flow processes? Do you want to work on translating fundamental understanding of flow processes into industrial applications? Do you want to further your career in one of the UK's leading research-intensive universities?**

Manufacturing and processing of emulsions is almost always carried out in a batch process both in academia and industry. Recently, a few methods have allowed for flow production of emulsion droplets via microfluidics or membrane emulsification processes, but this has yet to transfer to large-scale industrial processes. One challenge still to overcome concerns the fact that emulsion droplets are sometimes further processed to adsorb functional coatings on their surfaces, particularly in formulated products. This project aims to develop flow processes that allow in-situ functionalisation of emulsion droplet surfaces using more efficient and less energy-intensive methods.

In this project, you will work as part of an EPSRC-funded project team and in close collaboration with an industrial partner. You will develop flow processes, including in-line and off-line characterisation methods. You will explore both the fundamental aspects of the developed flow processes and the functionalisation processes for model systems, that can be published in the academic literature. In parallel, you will also apply this knowledge to developing in-flow coating of industry-relevant emulsion systems.



## What does the role entail?

As a Research Fellow, your main duties will include:

- Ensuring excellent technical progress of the EPSRC-funded project through developing flow systems that enable efficient coating of emulsion droplets and corresponding scientific understanding;
- Efficiently balancing the project research by investigating model systems, which can result in academic publication and, in parallel, applying the gained knowledge to industrially-relevant systems;
- Communicating research progress with the project team regularly and efficiently;
- 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;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own research;
- 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;
- 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) in Chemistry, Chemical Engineering or a closely allied discipline;
- A strong background in colloid and interface science/engineering and, in experimental flow processes;
- Good experience of emulsion science and emulsification processes;
- Excellent experience of gathering and thoroughly analysing high-quality research data in the areas mentioned above;
- Good experience of strongly contributing to multidisciplinary projects;
- A developing track record of peer-reviewed publications in international journals;
- Good time management and planning skills, with the ability to meet tight deadlines and manage competing demands effectively without close support;
- 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.

You may also have:

- Experience of pursuing external funding to support research;
- Prior experience of interfacial film deposition on emulsion (or flat) surfaces;
- Prior experience of supervising research students;
- Prior experience of working with and communicating research to both academic and industrial partners.

## 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 Olivier Cayre](#)**, Associate Professor

Email: [O.J.Cayre@leeds.ac.uk](mailto:O.J.Cayre@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>.

