UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in High Throughput Crystallization and Analysis, Faculty of Engineering and Physical Sciences

Salary: Grade 7 (£41,064 – £48,822 p.a.)

Reporting to: Professor Fiona Meldrum

Reference: EPSCH1126

Closing date: Tuesday 03 February 2026

Fixed term (until 31 December 2028 - to complete specific time limited work)

Location: Leeds Main Campus

We are open to discussing flexible working arrangements

Research Fellow in High Throughput Crystallization and Analysis,
School of Chemistry.

Are you an ambitious researcher looking for your next challenge? Do you have an established background in crystallization? Do you want to further your career in one of the UK's leading research-intensive universities?

Overview of the Role

We are looking for an outstanding Research Fellow to join a research project based in the groups of **Professor Fiona Meldrum** in the School of Chemistry and **Professor Nik Kapur** in the School of Mechanical Engineering. The project is part of a new £7M EPSRC funded Programme Grant that brings together a team of researchers from the universities of Leeds, Durham and Manchester investigating the formation of Molecular Organic Solid Solutions (MoSS).

Solid solutions are created when atoms or ions of a dopant are incorporated within the crystal structure of a host. Even at minute quantities, this can significantly alter the properties of crystals. Although solid solutions in metals and inorganic materials are well-studied, little is known about systems where the host and dopants are small organic molecules (MoSS). There is huge potential of utilising MoSS for changing and modulating materials properties, such as solubilities, crystal polymorph, crystal sizes and shapes and rates of dissolution.

The overall goal of the consortium is to develop and apply cutting-edge techniques in crystal synthesis, characterisation and modelling to study and generate a new understanding of MoSS. These advances will have applications across multiple sectors, including pharmaceuticals, agrochemicals, and food industries.

There are multiple opportunities to collaborate, take part in network events and undertake research placements within this project.

You will have a PhD in Physical Sciences or a closely related field, and you will have a background in the experimental study of crystallization.

Main duties and responsibilities

- Crystallizing small organic molecules from solution;
- Performing high throughput crystallization experiments using a pipetting robot and well plates;
- Carrying out high throughput analyses using techniques including HPLC and Raman microscopy;
- Investigating the nucleation kinetics of MoSS crystals;
- Determining the crystallization pathway of MoSS crystals;
- Characterising crystals using techniques including Raman microscopy, X-ray diffraction and Scanning Electron Microscopy (SEM);
- Analysing and interpreting data from these techniques;
- 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.

Qualifications and skills

Essential

- A PhD (or have submitted your thesis before taking up the role) in Physical Sciences or a closely allied discipline;
- A strong background in the experimental study of crystallization;
- Experience in the growth of organic crystals from solution;
- Experience in X-Ray diffraction;
- 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.

Desirable

- Expertise in HPLC;
- Expertise in high throughput synthesis and analysis techniques;
- Experience of common analytical techniques such as Raman spectroscopy and electron microscopy;
- Experience in:
    - studying the nucleation of crystals;
    - working with droplet-based systems;
    - working with flow systems;
    - working with levitated droplets;
- Experience 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:

Professor Fiona Meldrum, School of Chemistry
Tel: +44 (0)113 343 6414
Email: F.Meldrum@leeds.ac.uk

OR

Professor Nik Kapur, School of Mechanical Engineering
Tel: +44 (0)113 343 2152
Email: N.Kapur@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 Chemistry.

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.

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.

Information for disabled candidates
Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found under the 'Accessibility' heading on our How to Apply information page or by getting in touch by emailing HR via 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 the Government's Skilled Worker visa page.

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information, please visit the Government's page, Apply for the Global Talent visa.