



UNIVERSITY OF LEEDS

## CANDIDATE BRIEF

Research Fellow in Supramolecular Polymer Chemistry, Faculty of Engineering and Physical Sciences



**Salary: Grade 7 (£33,199 - £39,609 p.a.)**

**Due to funding restrictions an appointment will not be made above £33,199**

**Reference: ENGPE1172**

**Closing date: 09<sup>th</sup> September 2019**

**Fixed term, available from 1<sup>st</sup> September, to end on 31 August 2022**

**We will consider flexible working arrangements**

# Research Fellow in Supramolecular Polymer Chemistry Schools of Chemical and Process Engineering and Chemistry

**Are you an ambitious researcher looking for your next challenge? Do you have an established background in supramolecular or materials chemistry in its broadest sense? Do you want to further your career in one of the UK's leading research intensive universities?**

A Leverhulme Trust funded position is available to design and synthesise polymers which can mimic the ability of biological materials to undergo macromolecular reconfiguration through molecular recognition (self-sorting).

Biomolecular macromolecules achieve astonishing functions and regulatory control by precise presentation and reconfiguration of 3D structure. This project will harness small molecule molecular recognition afforded by multiple hydrogen bonding arrays (MHAs) to control polymer architecture and self-assembly. Our group has recently developed self-sorting cascades and networks ([Chem. Sci. 2013, 4, 1825](#) and [Chem. Eur. J. 2019, 25, 785](#)) using MHAs that can be readily incorporated into supramolecular materials ([Macromolecules, 2013, 46, 9634](#)). Combining these with controlled structure polymers which are easily prepared using controlled polymerization techniques (e.g. [J. Am. Chem. Soc. 2014, 136, 10174](#)) brings about an opportunity to produce macromolecular structures with tuneable functionality. These have the potential to bring about a revolution in advanced materials.

You will have a PhD (or close to completion / or have submitted your thesis before taking up the role) in polymer chemistry or a closely allied discipline, and an exceptional background knowledge of contemporary research in synthetic polymer chemistry and materials science.

## What does the role entail?

As a Research Fellow, your main duties will include:

- Designing, planning and conducting a programme of investigation, in consultation with Dr Nicholas Warren and Professor Andrew Wilson;





- Generating independent and original research ideas and methods in the design, preparation and testing of polymers with that can reconfigure via intramolecular self-sorting of hydrogen-bonding motifs;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Making a significant contribution to the dissemination of research results by publication in leading peer-reviewed journals, by presentation at national and international meetings, and participating in our programme of public engagement activities;
- Supporting research activities and communication, through participation at group meetings/seminars, contributing to the supervision of junior researchers and PhD students and acting as a mentor to less experienced colleagues;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate.

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 close to completion / or have submitted your thesis before taking up the role) in polymer chemistry or a closely allied discipline;
- Exceptional background knowledge of contemporary research in synthetic polymer chemistry and materials science;
- Exceptional technical skills and track record in the synthesis of polymers;
- Experience in the use of modern spectroscopic methods (e.g. two-dimensional NMR, IR, mass spectrometry);
- The ability to lead, 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;
- A proven ability to work well both independently and as part of a team, with a



strong commitment to research in a team environment focused on cutting-edge approaches for development of supramolecular self-sorting materials;

- Good organisational time management and planning skills, with the ability to meet tight deadlines, manage competing demands and work effectively under pressure without close support;
- A strong commitment to your own continuous professional development.

You may also have:

- Experience of working in the area of polymer self-assembly;
- Evidence of practical experience in multidisciplinary research;
- Practical experience in the following: (i) DSC, X-ray scattering, 2D NMR; (ii) experience in supramolecular chemistry;
- Experience of public communication and engagement.

## 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 Nicholas Warren](#), University Academic Fellow, School of Chemical and Process Engineering**

Tel: +44 (0)113 3431409

Email: [N.Warren@leeds.ac.uk](mailto:N.Warren@leeds.ac.uk)

or

**[Professor Andrew J Wilson](#), Professor of Organic Chemistry, School of Chemistry**

Tel: +44 (0)113 3431409

Email: [a.j.wilson@leeds.ac.uk](mailto:a.j.wilson@leeds.ac.uk)



## Additional information

### Faculty and School Information

Further information is available on the research and teaching activities of the [School of Chemical and Process Engineering](#).

### A diverse workforce

The Schools in the Faculty of Engineering & Physical Sciences are proud to have been awarded the Athena SWAN [Bronze](#) or [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

Find out more about the benefits of working at the University and what it's 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

