



UNIVERSITY OF LEEDS

## CANDIDATE BRIEF

Research Fellow in Chemical Biology

Faculty of Engineering & Physical Sciences



**Salary: Grade 7 (£33,797 – £40,322 p.a.)**

**Reference: EPSCH1022**

**Closing date: 22 November 2020**

**Fixed term for 3 years in the first instance, available from 01 January 2021**

**We will consider job share / flexible working arrangements**

# Research Fellow in Chemical Biology

## School of Chemistry

**Are you an ambitious researcher looking for your next challenge? Do you have an established background in chemical biology in its broadest sense? Do you want to further your career in one of the UKs leading research intensive universities?**

As Research Fellow in Chemical Biology you will join a BBSRC-funded team focused on developing and exploiting new tools to understand and perturb protein-protein interactions (PPIs) involving intrinsically disordered regions. You will assist the Investigators in delivering this large research programme by focussing on the design and synthesis of small-molecule chemical probes for disease relevant PPIs, with considerable emphasis on targets in oncology.

The post is associated with a major £5.4 million five-year collaborative research programme led by [Professor Andy Wilson](#), funded by the [Biotechnology and Biological Sciences Research Council \(BBSRC\)](#), and bringing together the [University of Leeds](#), the [University of Oxford](#), and project partners, [AstraZeneca](#) and [LifeArc](#). This large and diverse programme focuses on *Deciphering the function of intrinsically disordered protein regions in a cellular context* using The Aurora A kinase (Aurora A) as a target. Aurora A represents a key potential target for anticancer therapeutics development and plays a fundamental role in regulating cell division. The specific purposes of the role are to (i) develop reagents capable of inhibiting the interactions of Aurora A, (ii) use proteomics methods to dissect the cellular interactome of Aurora A.

You will be part of a large team based in [The Wilson](#), and [The Wright](#) groups in the [School of Chemistry](#) and the [Astbury Centre for Structural Molecular Biology](#) with access to a superb infrastructure for research in chemical biology, including synthetic laboratories, NMR equipment, X-ray crystallographic, mass spectrometry and biophysical techniques, together with state of the art online resources.

You will have a PhD (or have submitted your thesis prior to starting) in an area appropriate to the project, along with extensive knowledge of chemical proteomics and/or chemical probe development.



## What does the role entail?

As Research Fellow in Chemical Biology your main duties will include:

- Designing, planning and conducting a programme of investigation, in consultation with Dr Megan Wright, Prof Andrew Wilson and the wider collaborative team of investigators;
- Generating and pursuing independent and original research ideas and for the analysis and modulation of protein-protein interactions using chemical proteomics tools and/or peptidomimetics;
- 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, by presentation at national and international meetings, and by participating in our programme of public engagement activities;
- 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, including secondments to other institutions where appropriate;
- 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;
- Evaluating methods and techniques used and results obtained by other researchers and relating such evaluations to your own research;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- To contribute to, and to encourage, 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 in Chemical Biology you will have:

- A PhD (or have submitted your thesis before taking up the role) in bioorganic chemistry/chemical biology or subject relevant to the project;
- Exceptional background knowledge of contemporary research in Synthetic Chemistry and Chemical Biology;
- Exceptional technical skills and track record in synthesis and characterization of bioactive molecules such as small molecules or peptides (incl. experience in the use of appropriate modern spectroscopic methods e.g. two-dimensional NMR, IR, mass spectrometry to characterise synthetic intermediates);
- A high level of organisational, planning, communication and self-management skills, with the ability to work effectively under pressure to support a range of different work streams/projects simultaneously, understand the links between them, and retain a clear focus on outcomes/deadlines;
- A proven track record of peer-reviewed publications in high impact factor journals;
- The ability to design, execute and write up research accurately, carefully and independently;
- Excellent written and verbal communication skills including presentation skills;
- A proven ability to work well both independently and as part of a team, with a strong commitment to research in a team environment, together with a demonstrable interest in cutting-edge approaches to understand the protein-protein interactions of intrinsically disordered regions;
- Evidence of practical experience in multidisciplinary research;
- A strong commitment to your own continuous professional development.

You may also have:

- Experience of pursuing external funding to support research;
- Experience solid-phase peptide/peptidomimetic synthesis;
- Experience in photo-crosslinking;
- Experience of Chemical Proteomics workflows;
- Experience of developing chemical probes;
- Practical experience in the following: (i) use and/or development of biophysical assays to monitor biomolecular interactions (e.g. fluorescence anisotropy, isothermal titration calorimetry or surface plasmon resonance); (ii) experience



in molecular biology, recombinant protein overexpression and purification; (iii) experience in cell culture and cell-based assays;

- 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](#).

Your application should include:

- a supporting statement providing evidence to support each requirement listed on the 'What will you bring to the role' section of the Candidate Brief (no more than 2 sides of A4, minimum font size 11); and
- an academic curriculum vitae, including a list of your publications.

The interview will involve a scientific discussion about the project and as such we recommend that you familiarise yourself with recent publications relevant to the project.

## Contact information

To explore the post further or for any queries you may have, please contact:

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

Tel: +44 (0)113 343 1409

Email: [A.J.Wilson@leeds.ac.uk](mailto:A.J.Wilson@leeds.ac.uk)

## Additional information

### Faculty and School Information

Find out more about the [The Wilson](#), and [The Wright](#) groups. Recent published research articles relevant to the project include:

- S. G. Burgess, M. Mukherjee, S. Sabir, N. Joseph, C. Gutiérrez-Caballero, M. W. Richards, N. Huguenin-Dezot, J. W. Chin, E. J. Kennedy, M. Pfuhl, S. J. Royle, F.



Gergely and R. Bayliss: [Mitotic spindle association of TACC3 requires Aurora-A-dependent stabilization of a cryptic  \$\alpha\$ -helix](#), *EMBO J.*, **2018**, 37, e97902.

- J. E. Horne, M. Walko, A. N. Calabrese, M. A. Levenstein, D. J. Brockwell, N. Kapur, A. J. Wilson and S. E. Radford: [Rapid Mapping of Protein Interactions Using Tag-Transfer Photocrosslinkers](#), *Angew. Chemie. Int. Ed.*, **2018**, 57, 16688-16692.
- C. M. Grison, G. M. Burslem, J. A. Miles, L. K. A. Pilsl, D. J. Yeo, Z. Imani, S. L. Warriner, M. E. Webb and A. J. Wilson: [Double Quick, Double Click Reversible Peptide "Stapling"](#), *Chem. Sci.*, **2017**, 8, 5166-5171.
- Y. K. Rennie, P. J. McIntyre, T. Akindele, R. Bayliss and A. G. Jamieson: [TPX2 Proteomimetic Has Enhanced Affinity for Aurora-A Due to Hydrocarbon Stapling of a Helix](#), *ACS Chem. Biol.* **2016**, 11, 3383-3390.
- M. W. Richards, S. G. Burgess, E. Poon, A. Carstensen, M. Eilers, L. Chesler and R. Bayliss: [Structural basis of N-Myc binding by Aurora-A and its destabilization by kinase inhibitors](#), *Proc. Natl. Acad. Sci. U. S. A.*, **2016**, 113, 13726-13731.
- J. A. Miles, D. J. Yeo, Philip Rowell, S. Rodriguez-Marin, C. M. Pask, S. L. Warriner, T. A. Edwards and A. J. Wilson: [Hydrocarbon Constrained Peptides – Understanding Preorganization and Binding Affinity](#), *Chem. Sci.*, **2016**, 7, 3694-3702.

Find out more about the:

- [School of Chemistry](#);
- [Astbury Centre](#) for Structural Molecular Biology, their [research](#) and associated [facilities](#);
- [Faculty of Engineering and Physical Sciences](#);
- University [libraries](#), [journal](#) and [database](#) subscriptions.

### 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 is 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.

