



UNIVERSITY OF LEEDS

## CANDIDATE BRIEF

Research Fellow in Structural Biology, Astbury Centre for Structural Molecular Biology, Faculty of Biological Sciences



**Salary: Grade 7 (£32,548 – £38,833 p.a.) Due to funding limitations an appointment cannot be made above £36,613 p.a.**

**Reference: FBSAS1015**

**Closing date: 17 October 2017**

**Fixed-term for 3 years (external funding)**

## **Research Fellow in Structural Biology, Astbury Centre for Structural Molecular Biology, School of Molecular and Cellular Biology.**

**Are you interested in working in a productive, interdisciplinary team harnessing the power of heterologous expression in plants and cryo-electron microscopy to make major insights in structural virology through the determination of completely novel virus structures?**

We are looking for an outstanding postdoctoral research fellow to make a BBSRC funded team working in structural virology. The team will consist of two post-doctoral researchers one at the University of Leeds based in the laboratory of [Professor Neil Ranson](#) (this post), and one focusing on heterologous expression in plants in the laboratory of [Professor George Lomonosoff](#) at the [John Innes Centre](#) (Norwich, UK).

You will be an experienced structural biologist, ideally with expertise in high-resolution cryo-EM. The programme plans to generate a significant number of novel, high resolution structures, and will require extensive expertise in atomic model building and refinement. With this in mind, a structural biologist with expertise in X-ray crystallography and the drive and commitment to learn cryo-EM would also be a strong candidate. As part of this role, you will determine the structures of virus like particles generated by heterologous expression of viral coat proteins in plants, and generate novel protein-based binding reagents for use in biotechnology, and diagnosis of authentic virus infections.

You will have a PhD (or be close to completion) in Structural Biology, Biochemistry or Biophysics. You will also have experience of using either X-ray crystallography, NMR, or cryo-EM to determine the 3D structures of biological macromolecules

**Further information about the project and recent publications are available within the additional information document.**

### **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 Professor Neil Ranson and Professor George Lomonosoff;



- Generating independent and original research ideas and methods in structural biology;
- The purification, biochemical manipulation and biophysical analysis of viruses and VLPs (which will be expressed in plants at the John Innes Centre);
- The assessment of sample quality using negative stain EM;
- Freezing specimens for cryo-EM (and/or cryo-ET) using both FEI Vitrobot and/or Leica EM-GP devices;
- Optimising frozen-hydrated specimens for data collection;
- Cryo-EM data collection and the refinement of cryo-EM data to the highest possible resolution;
- The building of atomic models and their refinement into EM density maps;
- Analysis, visualisation and interpretation of new structural information;
- Keeping up to date with recent advances in structural virology and biotechnology;
- Communicating with collaborators and other post-doctoral researchers employed on the project and other related projects;
- Communicating or presenting research results through publication or other recognised forms of output;
- 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;
- Contributing to the supervision of junior researchers and PhD students and acting as a mentor to less experienced colleagues.

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 be close to completion) in Biochemistry, Biophysics, Structural Biology or a related discipline;
- Experience of using either X-ray crystallography, NMR, or cryo-EM;
- Experience of using cryo-EM approaches to study protein structure and interactions;





- A detailed understanding of protein structures combined with experience of working with proteins and their complexes;
- Experience of successful collaborations and team working;
- Good data management, analytical and computer skills;
- The ability to design, execute and write up experimental work independently as well as a proven ability to work effectively and responsibly without close supervision;
- Excellent communication skills, both written and verbal and the ability to communicate your research at national and international conferences.

You may also have:

- A BSc in Biochemistry, Chemistry, Biophysics or a related subject;
- Experience with developing instrumentation and new methods.

## 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 two sides of A4, minimum font size 11);
- An academic curriculum vitae, including a list of your publications.

## Contact information

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

[Professor Neil Ranson](#), **Professor of Structural Molecular Biology**

Tel: +44 (0)113 343 7065

Email: [n.a.ranson@leeds.ac.uk](mailto:n.a.ranson@leeds.ac.uk)



## Additional information

Find out more about the [Astbury Centre for Structural Molecular Biology](#) in the [School of Molecular and Cellular Biology](#) in the [Faculty of Biological Sciences](#).

### 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.

### Diverse Workforce

The University of Leeds and the Faculty of Biological Sciences are committed to providing equal opportunities for all and offer a range of family friendly policies. The University is a charter member of Athena SWAN (the national body that promotes gender equality in higher education), and the Faculty of Biological Sciences gained a Bronze award in 2014 and submitted an application for a Silver award in April 2017. We are proud to be an inclusive Faculty that values all staff, and are happy to consider job share applications and requests for flexible working arrangements from our employees. Our [Athena SWAN webpage](#) provides more information.

### 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.

