



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

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



Salary: Grade 7 (£33,797 – £40,322 p.a.) Due to funding limitations it is unlikely an appointment will be made above £38,017.

Reference: FBSAS1029

Fixed-term for up to 3 years (due to funding)

Post-doctoral Research Fellow in Structural Biology, Astbury Centre for Structural Molecular Biology, School of Molecular and Cellular Biology

Are you looking to apply your skills in Structural Biology and Imaging to gain a new molecular understanding of the structure of amyloid fibrils and help to develop new routes to combat amyloid diseases?

We are looking for an outstanding postdoctoral research fellow to join our well-established interdisciplinary team that is investigating how proteins aggregate into amyloid fibrils and the link between disease-relevant mutations and post-translational modifications and fibril structure. This MRC-funded position is to use cryoEM together with a other biophysical techniques to determine the structures of amyloid fibrils, especially fibrils purified from patient samples. This will help to reveal the mechanisms by which disease-relevant mutations and post-translational modifications effect changes in amyloid fibril structure and the consequences of these differences in cellular function and disease.

You will be based in the laboratories of [Professor Neil Ranson](#) & [Professor Sheena Radford](#), and work closely with our clinically-qualified collaborators and other members of the amyloid team (funded by BBSRC, MRC and Wellcome). You will have a PhD (or be close completion) in Structural Biology, Biochemistry, Imaging or a related discipline with substantial experience in using cryo-electron microscopy/tomography to determine the 3D structures of protein complexes.

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

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 was reawarded a Bronze award in 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.



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](#);
- Generating independent and original research ideas and methods in Amyloid Structural Biology with an aim to extend the [Ranson](#) and [Radford](#) research portfolios;
- Using cryo-EM (and possibly cryo-ET) to investigate the structure of amyloid fibrils;
- Compare and contrast the structures of ex vivo samples with those of fibrils grown in vitro;
- Integrating information from the above approaches to develop a new molecular and understanding of amyloid-induced aggregation;
- Keeping up to date with recent advances in the fields of amyloid formation and its inhibition and in structural cell biology and imaging;
- 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;
- Contributing to the supervision of junior researchers and PhD students and acting as a mentor to less experienced colleagues;
- In the later years of the project, work to understand the role of other factors such as chaperones, glycosaminoglycans and other relevant biological factors in aggregation.

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 Structural Biology, Biophysics or a related discipline;



- Substantial experience in using cryo-electron microscopy/tomography to determine the 3D structures of protein complexes;
- Experience in working with scarce/high value samples, preferably human tissue, to address mechanistic questions in biology;
- 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;
- The desire and drive to learn new skills and techniques;
- Imagination, creativity and ambition to drive new areas of science;
- Good data management, analytical and computer skills together with previous experience of using software for analysing data;
- The ability to design, execute and write up experimental work independently as well as a proven ability to work accurately, effectively and responsibly without close supervision;
- Experience of successful collaborations and team working;

Desirable

- A BSc in Molecular Biology, Biochemistry or a related subject;
- Experience of working in the fields of protein assembly, protein-protein interactions or protein aggregation and amyloidosis;
- Experience in working with human tissue;
- Experience in computational analysis of complex 3D data

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

Tel: +44 (0)113 343 7065

Email: n.a.ranson@leeds.ac.uk

or

[Professor Sheena Radford](#), **Astbury Professor of Biophysics**

Tel: +44 (0)113 343 3170

Email: s.e.radford@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](#). More information about the Radford research group can be found at:

<http://www.astbury.leeds.ac.uk/people/staff/staffpage.php?StaffID=NAR> and

<http://www.astbury.leeds.ac.uk/people/staff/staffpage.php?StaffID=SER>

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.

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.

