UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Assistant in Membrane Protein Proteostasis, Faculty of Biological Sciences

Salary: Grade 6 (£32,296 - £37,999 p.a.)

Reference: FBSBM1217

Available on a fixed-term basis for up to 2 years (to complete specific time limited work)

This role will be based on the university campus. We are also open to discussing flexible working arrangements.

Research Assistant in Membrane Protein Proteostasis
School of Biomedical Sciences

Are you an early career researcher looking for your first challenge? Do you have a background in membrane protein proteostasis research? Do you want to further your career in one of the UK's leading research intensive Universities?

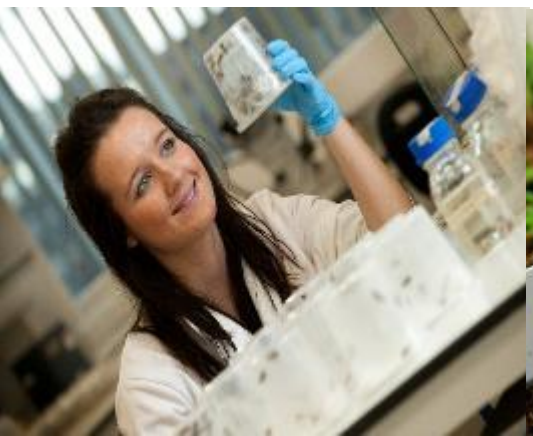
This position provides an exciting opportunity to advance research into the SGTA/BAG6 complex, a key regulator of membrane protein homeostasis. This pathway is crucial in determining whether membrane proteins are properly targeted or degraded, with dysregulation linked to diseases like Alzheimer's, cystic fibrosis, and cancer.

The successful candidate will explore the molecular mechanisms governing proteostasis, with a focus on protein triaging, stability, and interactions. Key responsibilities include designing and conducting experiments using advanced molecular biology techniques such as cloning, mutagenesis, and mammalian cell culture, including knockout and knock-in cell line generation. You will investigate protein dynamics using methods like co-immunoprecipitation, pulse-chase assays, and quantitative Western blotting. Additionally, you will analyse protein stability and interactions through biophysical techniques (e.g., circular dichroism, dynamic light scattering) and utilize mass spectrometry-based approaches (e.g., BioID2) to study protein interactomes. Advanced imaging techniques, such as confocal microscopy, FRAP, and super-resolution methods like PALM, will be employed to visualise cellular processes.

The role demands strong organisational skills to ensure data integrity, as well as effective communication abilities for preparing reports and collaborating within a multidisciplinary team. Applicants should have an MSc (or equivalent) in Biochemistry, Molecular Biology, or a related field, with expertise in proteostasis pathways and hands-on experience in protein purification, expression systems, and cell biology techniques. This is an opportunity to contribute to cutting-edge research with significant implications for understanding and treating major diseases.

What we offer in return:

- 26 days holiday (pro-rata) plus approx.16 Bank Holidays/days that the University is closed by custom (including Christmas)·



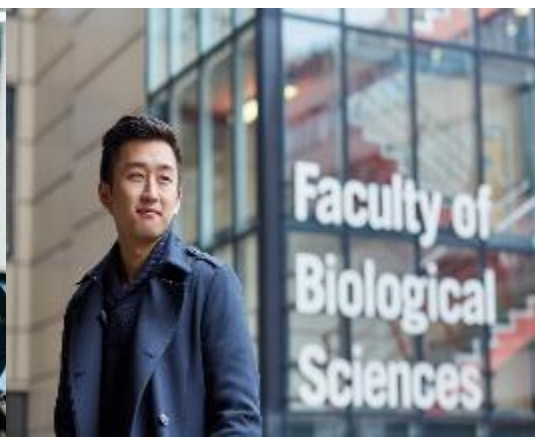
- Generous pension scheme options plus life assurance
- Health and Wellbeing: Discounted staff membership options at The Edge, our state-of-the-art Campus gym, with a pool, sauna, climbing wall, cycle circuit, and sports halls.
- Personal Development: Access to courses run by our Organisational Development & Professional Learning team.
- Access to on-site childcare, shopping discounts and travel schemes are also available.

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 awarded a Silver award in 2020. 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.

Main duties and responsibilities

- Contribute to studying mechanisms of membrane protein triage, as directed by Dr Yvonne Nyathi.
- Design and conduct experiments to study the SGTA/BAG6 complex, focusing on protein targeting and degradation pathways.
- Express and purify proteins in bacterial, insect, or mammalian systems, ensuring they meet the required quality for downstream applications.
- Perform protein stability and interaction studies using techniques such as pull-down assays, circular dichroism, and dynamic light scattering.
- Conduct cell-based assays, including transfections, siRNA knockdowns, and the generation of inducible or stable cell lines.
- Employ advanced imaging techniques, including confocal, FRAP, and super-resolution microscopy, to study protein dynamics, aggregation, and localisation.
- Develop and optimise novel methodologies, such as microfluidics systems, to simulate and observe protein phase behaviour under controlled conditions.
- Generating original ideas based on the outcome of analysis, in collaboration with Dr Y Nyathi and members of the Nyathi lab.





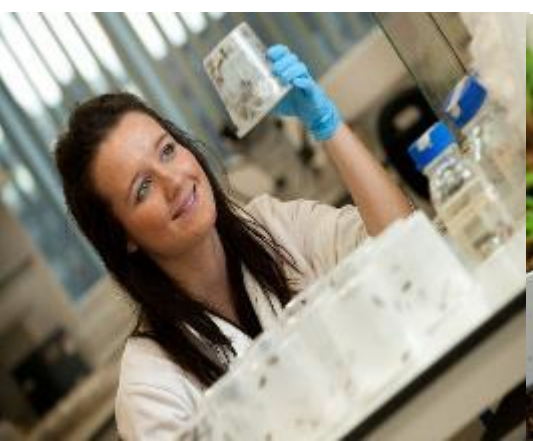
- Maintain meticulous experimental records and ensure the reliability and reproducibility of collected data.
- Contributing to the dissemination of research results in leading peer-reviewed journals and through presentation at meetings and conferences, with guidance as necessary.
- Supporting the activities of the research group to ensure a successful programme of investigation, including participation at group meetings and seminars.
- Providing support and advice to other members of the group, and assisting in the supervision of students;
- Working both independently and as part of a larger team of researchers and stakeholders;
- Continually updating your knowledge, understanding and skills in the research field in which you work.

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 first degree/Masters in Biochemistry, Molecular Biology or a closely allied discipline;
- Experience in protein purification and expression systems (bacterial, insect, or mammalian); biophysical techniques such as circular dichroism and dynamic light scattering; mammalian cell culture, including generating knockout or knock-in cell lines; cell biology methods like transfection, siRNA knockdown, overexpression studies, pulse-chase assays, co-immunoprecipitation, and quantitative Western blotting (e.g., LI-COR infrared detection); mass spectrometry-based approaches for protein interactomes (e.g., BioID2); and advanced imaging techniques including confocal microscopy and Fluorescence Recovery After Photobleaching (FRAP);
- Evidence of contributing to papers in internationally recognised, peer-reviewed journals or evidence of publishable research in progress;
- Good interpersonal and communication skills, both written and verbal, and the ability to communicate effectively with a wide range of stakeholders;



- Good time management and planning skills, with the ability to meet tight deadlines;
- A proven ability to work well both independently and as part of a team;
- The ability to work accurately and carefully;
- A strong commitment to your own continuous professional development.

Desirable

- A PhD (or close to completion) in Cell and Molecular Biology or a closely allied discipline;
- Development and application of microfluidics or similar systems for studying protein behaviour;
- Familiarity with protein phase separation and methods to investigate these properties;
- Experience of super-resolution microscopy methods like PALM;
- Accepted publications in internationally recognised, peer-reviewed journals.

Contact information

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

Dr Yvonne Nyathi, Lecturer in Membrane Biology
Email: Y.Nyathi@leeds.ac.uk

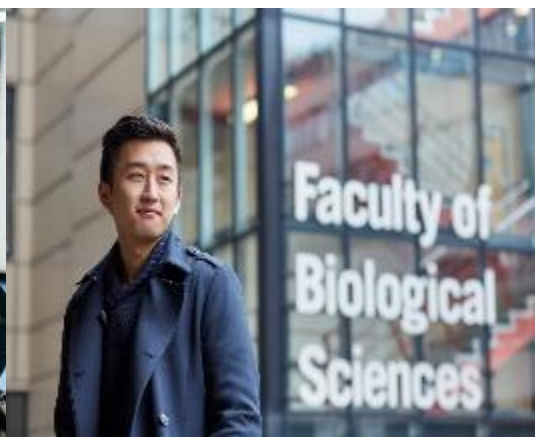
Additional information

Find out more about the Faculty of Biological Sciences and the School of Biomedical Sciences.

Find out more about our Research and associated facilities.

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/School of Biomedical 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, those who belong to a minority ethnic community; people who identify as LGBT+; and disabled people. Candidates will always be selected based on merit and ability.





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.

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.

Salary Requirements of the Skilled Worker Visa Route

Please note: If you are not a British or Irish citizen, you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen, this may be your status under the EU Settlement Scheme.

Please note that due to Home Office visa requirements, this role may only be suitable for first-time Skilled Worker visa applicants if they are eligible 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.

Security checks

Appointment to this post will be subject to appropriate security checks being carried out with your permission by a third-party company.

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. You can find out more about required checks and declarations in our Criminal Records information page.