UNIVERSITY OF LEEDS

Research Fellow in Mass Spectrometry,
Faculty of Engineering and Physical Sciences



Salary: Grade 7 (£34,304– £40,927 p.a.) Due to funding restrictions an appointment will not be made above £36,382 p.a.

Reference: EPSCH1051

Closing date: Wednesday 10 October 2021

Available immediately, Fixed term until Oct 2023

We will consider job share / flexible working arrangements

Research Fellow in Mass Spectrometry, School of Chemistry, Faculty of Engineering and Physical Sciences

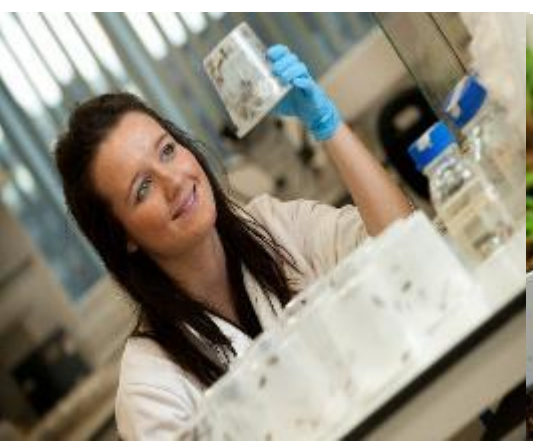
Are you an ambitious researcher looking for your next challenge? Do you have an established background in biological mass-spectrometry? Are you interested in new cross-linking methods for chemical and structural proteomics? Do you want to further your career in one of the UKs leading research intensive Universities?

We are seeking to appoint a postdoctoral research fellow with expertise in biological mass spectrometry to develop new cross-linking mass-spectrometry workflows. With a PhD in a relevant discipline, you will have a strong track record in the development and application of mass spectrometry methods to biology discovery, and enthusiasm for interdisciplinary and collaborative research. You will assist the investigators in delivering this research program by implementing state-of-the art mass spectrometry and chemical proteomics workflows using new innovations in chemical- and photo-crosslinking for modification site mapping, and quantitative proteomics.

The post is associated with a major £1.5 million collaborative research programme, funded by the EPSRC in the first instance for 24-months, *"A Platform for Chemical Probe Identification and Optimization Facilitating Interrogation of Biological Mechanisms"*. To deliver this programme, we are establishing a state-of-the-art facility that leverages our distinct interdisciplinary strengths in (bio)synthetic protein chemistries, chemical probe development and mass spectrometry (MS). It will focus on development and application of chemistry-driven approaches to understand protein function in complex biological environments. These cutting-edge physical sciences methods will enable studies of molecular mechanisms central to plant and animal health, informing treatment and diagnosis of disease, and improving food security.

You will be part of a team based in the School of Chemistry and the Astbury Centre for Structural Molecular Biology with strong links to the School of Molecular and Cellular Biology. You will have access to a superb infrastructure for research in chemical and structural biology, including brand new high-resolution mass-spectrometry instrumentation.

What does the role entail?





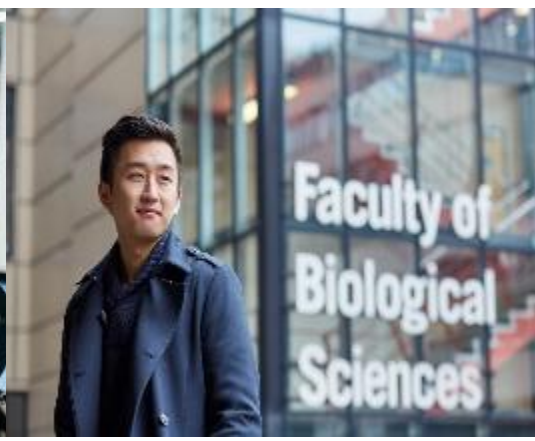
As a Research Fellow your main duties will include:

- Designing, planning and conducting a programme of investigation, in consultation with Prof. Andy Wilson, Dr Stuart Warriner and the wider collaborative team of investigators;
- Generating and pursuing independent and original research ideas in the area of chemical cross-linking for analysis of biomacromolecular structures and interactions;
- Operation of high resolution mass spectrometry instrumentation, and implementation of appropriate methods for chemical and structural proteomics experiments;
- Developing workflows to enable characterization of proteomes in response to chemical probes and the detection, identification and quantification of modifications by chemical probes on proteins/peptides with high sensitivity and localisation precision, i.e. with amino acid resolution;
- Working with investigators to develop research objectives and proposals (including as a named researcher), and contributing to setting the direction of the research project and team;
- Making a significant contribution to the dissemination of research results by authoring publications 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 facilitate collaborative research by providing intellectual and technical input in state of the art mass spectrometry methods and design of proteomics analyses (e.g. through LeedsOmics, School of Chemistry, The Astbury Centre for Structural Molecular Biology and wider University Campus) and engage in knowledge transfer 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;
- To contribute to, and to encourage, a safe working environment, and an environment that supports diversity and inclusion.

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?



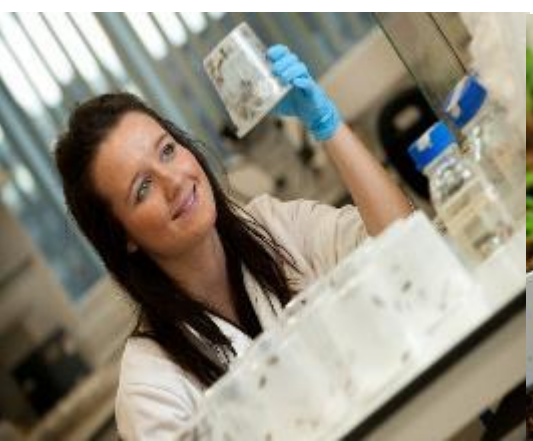


As a Research Fellow, you will have:

- A PhD (or close to completion) in biochemistry, analytical chemistry or molecular biology or a closely allied discipline that has involved a significant element of experimental mass spectrometry research;
- Exceptional technical skills and track record in high-resolution mass-spectrometry instrumentation, including instrument operation;
- Experience in the application of mass spectrometry to “omics” based research;
- The ability to design, execute and write up research accurately, carefully and independently;
- A proven ability to work well both independently and as part of a team, with a strong commitment to research in a team environment,
- a demonstrable interest in the application and further development of chemical cross-linking methods to biology discovery;
- A high level of interpersonal, self-motivation, 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 developing track record of peer-reviewed publications in internationally leading journals;
- A good understanding of relevant Health and Safety regulations and procedures;
- A strong commitment to your own continuous professional development.

You may also have:

- Additional experience in other MS based techniques e.g. MALDI-TOF mass spectrometry, mass spectrometry imaging, top down proteomics, metabolomics.;
- Experience of implementing quantitative proteomics workflows and analyses. This may include one or more of: proteomics sample preparation, strategies for sample enrichment, analysis of protein post-translational modifications, detection of crosslinks, acquisition/analysis of quantitative proteomics data (e.g. label free quantification, SILAC etc);
- Strong background knowledge of contemporary research in chemical biology;
- Evidence of practical experience in multidisciplinary research.





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.

The interview will involve a presentation on your prior relevant experience alongside a question and answer session; we recommend that you familiarise yourself with recent publications from research groups in the school who are active in this area.

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

Additional information

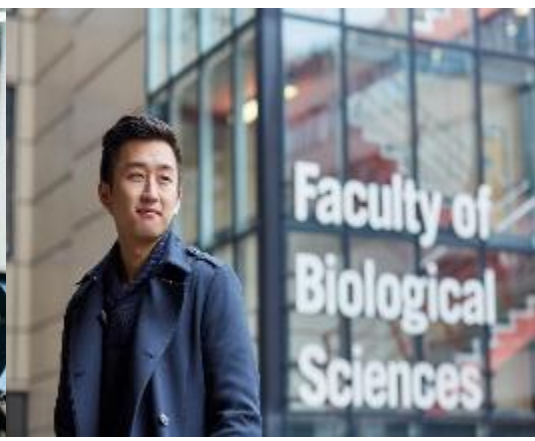
Recent published research articles relevant to the project include:

T. Ueda, T. Tamura, M. Kawano, K. Shiono, F. Hobor, A. J. Wilson, I. Hamachi*: *Enhanced suppression of a protein-protein interaction in cells using small-molecule covalent inhibitors based on N-acyl-N-alkyl sulfonamide warhead, J. Am. Chem. Soc. ,* **2021,** 143, 4766-4774. View Paper.

A.N. Calabrese, B. Schiffrin, M. Watson, T.K. Karamanos, M. Walko, J.R. Humes, J.E. Horne, P. White, A.J. Wilson, A.C. Kalli, R. Tuma, A.E. Ashcroft, D.J. Brockwell, S E. Radford*: *Inter-domain dynamics in the chaperone SurA and multi-site binding to its outer membrane protein clients, Nat. Commun.,* **2020,** 11, 2155. View Paper.

H. A. Beard, J. R. Hauser, M. Walko, R. M. George, A. J. Wilson,* R. S. Bon*: *Photocatalytic proximity labelling of MCL-1 by a BH3 ligand, Comms. Chem.,* **2019,** 2, 133. View Paper.





J. E. Horne, M. Walko, A. N. Calabrese, M. A. Levenstein, D. J. Brockwell, N. Kapur, A. J. Wilson*, S. E. Radford*:*Rapid Mapping of Protein Interactions Using Tag-Transfer Photocrosslinkers, Angew. Chemie. Int. Ed.,* **2018,** 57, 16688–16692. View Paper.
M. H. Wright, Y. Tao, J. Drechsel, J. Krysiak, S. Chamni, A. Weigert-Munoz, N. L. Harvey, D. Romo and S. A. Sieber, *Quantitative chemoproteomic profiling reveals multiple target interactions of spongiolactone derivatives in leukemia cells, Chem. Commun.*, **2017**, 53, 12818-12821. View Paper
M. H. Wright, C. Fetzer and S. A. Sieber, *Chemical Probes Unravel an Antimicrobial Defense Response Triggered by Binding of the Human Opioid Dynorphin to a Bacterial Sensor Kinase J. Am. Chem. Soc.*, **2017**, 139, 6152-6159. View Paper

Find out more about the:

- School of Chemistry;
- School of Molecular and Cellular Biology
- Astbury Centre for Structural Molecular Biology, their research and associated facilities;
- Faculty of Engineering and Physical Sciences;
- Faculty of Biological 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.

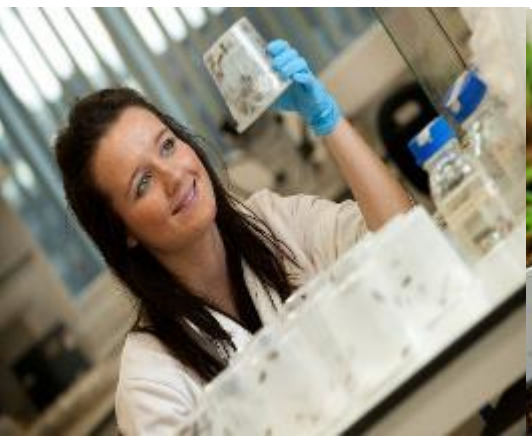
Working at Leeds

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.

Please note: If you are not a British or Irish citizen, from 1 January 2021 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 and resident in the UK before 31 December 2020, this may be your passport or status under the EU Settlement Scheme.

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.



