



UNIVERSITY OF LEEDS

## CANDIDATE BRIEF

### Structural Mass Spectrometry Scientist, Faculty of Biological Sciences



**Salary: Grade 7 (£37,099 - £44,263 p.a.)**

**Reference: FBSFO1203**

**Available on a full-time, ongoing basis.**

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

## Structural Mass Spectrometry Scientist, Faculty of Biological Sciences

**Are you looking for a role to utilise and develop your mass spectrometry skills within the context of a world-class mass spectrometry facility? Do you want to work with a broad group of scientists from academia and industry? Do you have a passion for transformational biological and biomedical discovery, and delivering cutting edge outputs where the generation and analysis of data play a key role?**

We are looking for a structural mass spectrometry (MS) scientist to join our facility team within the [Faculty of Biological Sciences](#) and the [Astbury Centre for Structural Molecular Biology](#). Working with state-of-the-art equipment and utilising your expertise in the field, you will work on multiple projects as a structural mass spectrometry expert in hydrogen-deuterium exchange-MS, native MS, chemical crosslinking-MS, and various top-down and bottom-up proteomics approaches. You will provide expert guidance, training and advice in areas covering sample preparation, optimisation, method development, data acquisition, and data interpretation.

You should have, or be close to completing, a PhD in in Chemistry, Biochemistry, Analytical Science, Structural Molecular Biology or a related discipline, or have equivalent experience, and have a passion for studying biological mechanisms relevant to human disease. You should also have experience in some structural mass spectrometry methods and data. You will work closely, interactively and collaboratively with the facility team as well as the wider MS community and external partners, and so excellent verbal and written communication and interpersonal skills are essential.

[The Astbury Centre for Structural Molecular Biology \(ACSMB\)](#) in Leeds provides an outstanding environment to undertake cutting-edge research. ACSMB is an interdisciplinary research hub focused on understanding life in molecular detail. ACSMB has >70 academic members, a grant portfolio of >£110m, and expertise in physics, chemistry, medicine and biology. ACSMB hosts state-of-the-art facilities for MS, cryo-EM, crystallography, NMR (including 950MHz), protein production, single molecule force spectroscopy, microscopy, biomolecular interactions and biophysics. ACSMB provides a vibrant environment for structural molecular and cellular biology, with experts in biophysics and structure, chemical biology, membrane biology, virology, enzymology and bioinformatics.



[The Mass Spectrometry Facility](#) provides an analytical service for the Faculty of Biological Sciences, the Astbury Centre, and other internal and external collaborators, including researchers who access facilities via the Instruct-ERIC pan-European research infrastructure, in addition to carrying out a considerable research programme in collaboration with academic staff. The Mass Spectrometry Facility is located in a dedicated suite and houses five mass spectrometers including:

- Orbitrap Eclipse EMR with UVPD/ETD/PTCR interfaced with a Vanquish Neo LC-MS for proteomics and native mass spectrometry.
- Orbitrap UHMR with CDMS and Ultimate 3000 for native mass spectrometry, using both nano-electrospray and online buffer exchange.
- Orbitrap Exploris 240 with Vanquish LC for metabolomics/small molecules.
- Synapt G2-Si HDMS mass spectrometer with HDX manager and LEAP robot for hydrogen-deuterium exchange mass spectrometry.
- Synapt HDMS MS/MS instrument with nano-electrospray and in-built ion mobility capabilities for native mass spectrometry.

Allied infrastructure for sample preparation and data analysis are also housed within the facility.

As a structural mass spectrometry scientist, you will support the range of mass spectrometry modalities that are available in the facility, including hydrogen-deuterium exchange, native MS, intact protein mass measurement, proteomics and metabolomics. You will provide an efficient analytical service for users of the Facility, performing analyses for users, give advice to others regarding sample preparation, experimental design and data interpretation, actively establish internal and external links with other research groups and industrial partners, develop new techniques for biomolecular analysis, write technical summaries and project reports, maintain the mass spectrometry and chromatography equipment in good working order, and perform other general laboratory duties.

## What does the role entail?

As a Structural Mass Spectrometry Scientist, your main duties will include:

- Leading the design and execution of research programs using the [Facility's](#) hydrogen-deuterium exchange-MS, native-MS, proteomics and metabolomics platforms;



- Designing experimental and data analysis workflows to be applied to cutting-edge research programmes using advanced mass spectrometry techniques;
- Develop new techniques for biomolecular analysis, in collaboration with academic staff and facility users, e.g. sample preparation, purification and analysis, including chromatographic methodology and ion mobility, and by developing hybrid solutions combining different MS approaches;
- Using your in-depth understanding of the structural MS toolbox of approaches available for optimising sample preparation and methods to obtain data of the highest quality;
- Working in close collaboration with the academic leads of the Facility, [Prof. Frank Sobott](#) and [Dr Anton Calabrese](#), and colleagues from the University of Leeds and external industrial users, having responsibility for their user experience;
- Developing data processing pipelines to support the research community, including liaising with IT;
- Taking the lead communicating research results using written reports, data/figures for publications or grant applications, presentations and conducting regular progress meetings with external/internal customers;
- Development, production and delivery of training programs and material for researchers at all experience levels;
- Playing a principle role in maintenance and troubleshooting of highly specialist equipment, working closely with field service engineers to maximise instrument operation time;
- Contributing to a world-class, collaborative research environment, including mentoring junior researchers, and maintaining your own continuing professional development, particularly keeping up-to-date with technology relevant to structural mass spectrometry.

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 Structural Mass Spectrometry Scientist, you will have:

- A PhD (or be close to completion) in Chemistry, Biochemistry, Analytical Science, Structural Molecular Biology or a related area, which has involved the characterisation of biomolecules using mass spectrometry;



- Experience in some structural mass spectrometry methods, including hydrogen-deuterium exchange-MS, native-MS, top-down MS, chemical crosslinking-MS;
- Excellent understanding of the impacts that sample preparation and data processing choices have on the success of the MS experiment;
- Experience of working with state-of-the-art mass spectrometry instrumentation and developing mass spectrometry methods using orbitrap or time-of-flight based instruments;
- Experience in processing mass spectrometry data;
- Good communications skills with the ability to correspond and communicate with a wide range of people;
- Excellent organisational, planning and self-management skills, with the ability to support work on several projects at different stages simultaneously, and retain a clear focus on outcomes and delivery by deadlines;
- The ability to work effectively and flexibly as a member of a team to deliver both user- and facility-led research projects;
- A proven ability to be proactive and to project a positive and friendly image;
- Excellent interpersonal and communication skills with the ability to effectively communicate with a wide range of people at various levels;
- Excellent data management and analytical skills.

You may also have:

- Experience of running proteomics and metabolomics analyses;
- Experience delivering theory and/or practical training in mass spectrometry techniques;
- A track record of research outputs in refereed publications of internationally excellent quality.

What we offer in return:

- 26 days holiday plus approx. 16 Bank Holidays/days that the University is closed by custom (including Christmas) – That's 42 days a year!
- Generous pension scheme plus life assurance– the University contributes 14.5% of salary;
- 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;
- And much more!

## 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:

**[Prof. Frank Sobott](#), Chair in Biomolecular Mass Spectrometry**

Email: [F.Sobott@leeds.ac.uk](mailto:F.Sobott@leeds.ac.uk)

**[Dr. Anton Calabrese](#), Sir Henry Dale Fellow & University Academic Fellow**

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

*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.*

## Additional information

Find out more about the [Faculty of Biological Sciences](#) and our [Research and associated facilities](#).

At the University of Leeds, we are committed to providing a culture of inclusion, respect and equity of opportunity that attracts, supports, and retains the best students and staff



from all backgrounds. Whatever role we recruit for we are always striving to increase the diversity of our community, which each individual helps enrich and cultivate. We particularly encourage applications from, but not limited to Black, Asian, people 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.

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.

### **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.

### **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.

