

Job Description

Job Title:	Technical Specialist in Mass Spectrometry (Proteomics and Biomolecules)
Department/Division/Faculty:	Department of Chemistry, Faculty of Natural Sciences
Campus location:	White City Campus
Job Family/Level:	Technical Services Level 3b (Salary scales)
Responsible to:	Departmental Research Facilities Manager, Technical Operations Manager
Key Working Relationships (internal):	Instrumentation facility managers, Analytical Technicians, Academic, Technical, and Research staff and students. Faculty safety and college estates and facilities staff
Key Working Relationships (external):	Instrument Vendor providers and contractors including instrument specialists and engineers. Users of analytical instruments from across Imperial and other HE institutes
Contract type:	Full time, fixed term for 2 years

Purpose of the Post

The post holder will be supervising and supporting the daily operational aspects of the Mass Spectrometry Facility (MSF) and the Agilent Measurement Suite (AMS) particularly related to protein and proteome analysis. The post holder will have the opportunity to establish and operate a transformative high-throughput proteomics pipeline, based around a newly acquired cutting edge proteomics platform. The pipeline will incorporate automated sample preparation, data independent acquisition methods and machine learning based data processing tools. The post holder will work with world-leading researchers applying their experience to a range of research areas including post translation modification analysis, interactomics, drug discovery and structural proteomics

The MSF provides a service to researchers across Imperial College, other Universities and Commercial companies. The AMS is supported by loaned equipment from Agilent, acting as both a research facility for Imperial and a showcase for Agilent's state-of-the-art instrumentation, along with providing technical support to facilities. This post will include supporting facility managers and other technical specialists, providing appropriate cover during holidays and sickness, commensurate with the grade, within the department of chemistry. Additionally, the post holder will be expected to provide support to the technical services for general laboratory space and equipment used by students and staff during their activities, demonstrating a flexible and multidisciplinary approach.

Key Responsibilities

The main duties of the post will include:

Supervise all operational aspects of the Mass Spectrometry Facility (MSF) for protein/proteomics:

- Troubleshooting, Operating and Maintaining uHPLC, nanoflow-LC systems and mass spectrometer instrumentation
- All aspects of preparation of protein and proteome samples for analysis
- Proteomics data processing
- Assisting users with experiment design and data analysis
- Secure management of data

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- Liaise and coordinate with specialist engineers (multi-vendor) regarding the maintenance of equipment and service contracts where appropriate.
- Develop novel analytical methods to assist research.
- Preparation and calibration of instruments using own experience for procedure selection.
- Providing a service for the Chemistry Department, other departments, external companies. This will include sample preparation, analysis, processing data, distribution of results.
- Selecting and purchasing analytical equipment in line with departmental needs.
- Provide costings for the service for both internal and external users.
- Provide financial reports for accurate recharging of services.
- Support other technical specialists as required.
- Use the MSF electronic booking system (PPMS). This will include training schedules, editing bookings, instrumentation use and reporting.
- Training researchers in the use of the open-access research instrumentation within the MSF and providing technical support. Monitor finances and resources of the facility (turnover approx. £100K per annum).
- Adjust the pricing strategy with a view to sustainability in line with the TRAC model for charge-out facilities and be able to present and justify said figures to the TRAC college committee.
- Keep records of payments and chase as necessary
- Coordinating with Health and Safety to maintain high standards, update risk assessments and Standard Operating Procedures associated with instruments as required and ensure that users are well versed in all safety aspects of the facility.

Supervise and support all operational aspects for the Agilent Measurement Suite (AMS):

- Provide expert technical support (proteomics and biomolecules) including independently training users and troubleshooting research instruments.
- Training researchers in the use of the research instrumentation within the AMS.
- Supervision and Support of the Analytical Instrument Technician(s).

Supporting Chemistry Research (20%):

- Troubleshooting other departmental analytical equipment and training users.
- Act as a 'point of contact' for designated area(s) in the department for Academic Staff and Researchers.
- Liaise with Academic Floor Representatives.
- Participate in Technical networking events.
- Participate in Technical group meetings.
- Assist with cryogen delivery as needed.
- Assist with general departmental duties as required.

Person Specification

Requirements	Essential (E)/ Desirable (D)
Candidates/post holders will be expected to demonstrate the following	
Education	
A BSc (or equivalent) in a Scientific Discipline (preferably Chemistry).	E
A MSc (or equivalent) in a Scientific Discipline (preferably Chemistry).	D
Experience	
Previous work experience in a relevant research instrumentation role in a HE or industrial environment.	E
Hands on experience with the repair, maintenance and troubleshooting of high-resolution MS instrumentation	D

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Hands on experience with the repair, maintenance and troubleshooting of nanoflow-LC and uHPLC systems	D
Experience with preparation of samples for proteomics analysis by LC-MS/MS	D
Experience with preparation of samples for intact protein analysis by LC-MS	D
Membership, or working toward membership, of a relevant professional body e.g. Royal Society of Chemistry (RSC)	D
Experience in developing and delivering training materials for a range of academic levels.	D
Experience of managing financial resources	D
Knowledge	
Working knowledge regarding principles of analytical research instrumentation, including high-resolution biomolecular mass spectrometry and nanoflow -LC	E
Knowledge of synthetic chemistry laboratory operations.	E
Understanding of health & safety regulations and procedures.	E
Writing and updating Risk Assessments and Standard Operating Procedures.	E
Knowledge and practical experience of research instrumentation maintenance, the ability to set up experiments and guide method development.	E
Skills & Abilities	
Able to work independently and use own initiative to solve complex problems.	E
Ability to understand and implement software upgrades.	E
Excellent record keeping and budget reporting	E
Capable of liaising between facilities, external contractors, and research groups.	E
Ability to communicate with external contractors, organize/support service visits.	E
Able to work closely with technical/facilities/academic staff and students providing assistance and guidance when required.	E
Excellent level of IT literacy, in particular Word, Excel, PowerPoint and Outlook.	E
Experience of wide range of software packages associated with analytical instrumentation.	E
Ability to adapt and perform a wide variety of tasks.	E
Experience in manual handling techniques.	D
Ability to understand and address non-routine work.	D

Please note that job descriptions cannot be exhaustive, and the post-holder may be required to undertake other duties, which are broadly in line with the above key responsibilities.

Imperial College is committed to equality of opportunity and to eliminating discrimination. All employees are expected to follow the [Imperial Values & Behaviours framework](#). Our values are:

- Respect
- Collaboration
- Excellence
- Integrity
- Innovation

Employees are also required to comply with all College policies and regulations paying special attention to: Confidentiality, Conflict of Interest, Data Protection, Equal Opportunities, Financial Regulations, Health and Safety, Information Technology, Smoking, Private Engagements and Register of Interests. They must also undertake specific training and assume responsibility for safety relevant to specific roles, as set out on the [College Website Health and Safety Structure and Responsibilities](#) page.

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The College is a proud signatory to the San-Francisco Declaration on Research Assessment (DORA), which means that in hiring and promotion decisions, we evaluate applicants on the quality of their work, not the journal impact factor where it is published. For more information, see <https://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-evaluation/>

The College believes that the use of animals in research is vital to improve human and animal health and welfare. Animals may only be used in research programmes which are ultimately aimed towards finding new treatments and making scientific and medical advances, and where there are no satisfactory or reasonably practical alternatives to their use. Imperial is committed to ensuring that, in cases where this research is deemed essential, all animals in the College's care are treated with full respect, and that all staff involved with this work show due consideration at every level. [Find out more about animal research at Imperial.](#)

We are committed to equality of opportunity, to eliminating discrimination and to creating an inclusive working environment for all. We therefore encourage candidates to apply irrespective of age, disability, marriage or civil partnership status, pregnancy or maternity, race, religion and belief, gender reassignment, sex, or sexual orientation. We are an [Athena SWAN Silver Award](#) winner, a [Disability Confident Leader](#) and a [Stonewall Diversity Champion](#).

March 2023