



Senior Scientific Officer Proteomics Candidate Information

April 2022

The Institute of Cancer Research

About our organisation

We are one of the world's most influential cancer research institutes with an outstanding record of achievement dating back more than 100 years. We are world leaders in identifying cancer genes, discovering cancer drugs and developing precision radiotherapy. Together with our hospital partner The Royal Marsden, we are rated in the top four centres for cancer research and treatment worldwide.

As well as being a world-class institute, we are a college of the University of London. We came top in the league table of university research quality compiled from the Research Excellence Framework (REF 2014).

We have charitable status and rely on support from partner organisations, charities, donors and the general public.

We have more than 1000 staff and postgraduate students across three sites – in Chelsea and Sutton.

Division of Cancer Biology, Functional Proteomics Team

Professor Jyoti Choudhary's team explores the molecular phenotype of cancer studying protein-protein interactions, signalling, post-translational modifications and protein expression.

The Division of Cancer Biology studies the complex interplay of genes, proteins and biological processes that drive the development and growth of cancers. Understanding the many different biological systems underlying cancer's development is essential for understanding cancer and identifying new targets for treatment.

Our mission
is to make the
discoveries that
defeat cancer.

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Our values

The ICR has a highly skilled and committed workforce, with a wide variety of roles, each requiring different skills. But whether you work as a researcher, or work as part of our corporate team, your work and behaviour is underpinned by these six values. They are what bring us together as one team - as 'One ICR'.



Pursuing excellence

We aspire to excellence in everything we do, and aim to be leaders in our field.



Acting with Integrity

We promote an open and honest environment that gives credit and acknowledges mistakes, so that our actions stand up to scrutiny.



Valuing all our people

We value the contribution of all our people, help them reach their full potential, and treat everyone with kindness and respect.



Working together

We collaborate with colleagues and partners to bring together different skills, resources and perspectives.



Leading innovation

We do things differently in ways that no one else has done before, and share the expertise and learning we gain.



Making a difference

We all play our part, doing a little bit more, a little bit better, to help improve the lives of people with cancer.



Our values set out how each of us at the ICR, works together to meet our mission – to make the discoveries that defeat cancer. They summarise our desired behaviours, attitudes and culture – how we value one another and how we take pride in the work we do, to deliver impact for people with cancer and their loved ones.

Professor Kristian Helin
Chief Executive

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Job description

Department / division:	Division of Cancer Biology, Functional Proteomics Team
Pay grade / staff group:	Senior Scientific Officer
Hours / duration:	Full time (35 hours per week), Monday to Friday. Fixed term contract for 1 year
Reports to:	Prof Jyoti Choudhary, Team Leader
Main purpose of the job:	The Senior Scientific Officer (SSO) will join the Proteomics core facility at the ICR. The unit provides users high quality support in cutting edge mass spectrometry-based proteomics analysis as well as conducting research to develop innovative quantitative proteomics workflows for the characterization of multiple aspects of protein function and structural attributes. This role will involve collaborative research as well as development of new data analysis methods.

Duties and responsibilities:

The post holder will undertake end-to-end analysis of a variety of samples to characterize proteome features in a quantitative fashion. The main experimental analysis pipelines will include isobaric labeling, chromatography fractionation and enrichment of post-translational modifications followed by mass spectrometry analysis using tribrid systems. In addition, data analysis using statistical approaches and pathway analysis will be conducted. The post holder is expected to work independently quickly and to communicate the results to the group as well as to collaborating ICR groups with follow up meetings making sure that they obtain a good understanding of the quantitative data and the technology used. The post holder will be required to represent the group in local or international meetings and conferences showcasing their work in oral or poster presentations. Training and supervision of students, team members and collaborators to analysis pipelines is also a key aspect of the post. A strong candidate would be able to design, develop and publish methods addressing current needs in proteomics, helping the group to remain up to date and operating at world class standards.

Key Duties & Responsibilities

Use appropriate techniques to carry out the objectives of the post. These include:
Expertise in quantitative mass spectrometry with label and label free approaches.
Excellent understanding of study designs and their importance in final data quality.
Sound biological knowledge and skills in biochemistry techniques to support development of new analytical methods.
Experience in preparation of samples for proteomics with skills in establishing robust workflows.

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Ability to optimise and develop proteomics methods to study diverse protein attributes such as post translational modifications, interactions and turnover.
Troubleshooting methods and instrumentation to achieve best analytical performance.
Proficiency in mass spectrometry computational tools for spectrum assignment, quantitation and preparation of data for biological interrogation.
Demonstrated experience in the analysis of large datasets- ability to distil data revealing biological information and present them.
Extensive working knowledge of statistical methods for data analysis, knowledge of selecting appropriate methods and applying them as well as experimental designing.
Ability to plan and organise work to meet deadlines and handle multiple tasks.
Mentor students and visiting workers.
Lead and manage projects. Publish high quality research.
Contribute to grant applications.
Provide expertise in Proteomics.

General

Maintain accurate records in laboratory notebooks.
Use and maintenance of specialised laboratory equipment and mass spectrometry instruments.
Initiate laboratory procedures to ensure smooth running of experimental work and with others to ensure that housekeeping tasks are performed on a regular basis.
Initiate purchase of consumable items and minor equipment within budgetary limits.
Work in a flexible but organised manner to meet objectives/deadlines.
Work and communicate effectively with other members of the team and external collaborators.
Prepare reports of results for oral or written presentations at internal and external meetings and for publication in scientific journals or patents.
To work independently on a defined project and to consult when appropriate.
To contribute to the supervision and training of junior staff.
Take an interest in the general literature. Provide domain expertise with the team.
All staff must ensure that they familiarise themselves with and adhere to any ICR policies that are relevant to their work and that all personal and sensitive personal data is treated with the utmost confidentiality and in line with the General Data Protection Regulations
Comply with the ICR's guidelines, including safe working practices.
Any other duties that are consistent with the nature and grade of the post that may be required.

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To work in accordance with the ICR's Values.

To promote a safe, healthy and fair environment for people to work, where bullying and harassment will not be tolerated.

This job description is a reflection of the present position and is subject to review and alteration in detail and emphasis in the light of future changes or development.

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Person specification

Education and Knowledge

PhD in biological or chemical science	E
Additional qualification/training in cancer research	D

Skills

Ability to trouble shot LC-MS platforms and optimise performance	E
Ability to design and implement proteomics experiments using state-of-the-art techniques	E
Ability to perform statistics, data integration and visualisation to a high level	E
Proficiency in proteomics data analysis encompassing spectrum assignment, quantitation and preparation of data for biological interrogation.	E
Familiarity with coding in R or scripting	D
Ability to conduct large scale data analysis	E
Ability to present proteomics data to a high standard	E

Experience

Solid expertise in quantitative proteomics including SILAC and TMT labelling as well as label free	E
Expertise in biochemical and protein purification techniques	E
Demonstrated expertise in proteomics data analyses including quantitative analysis, statistical methods and pathway analysis	E
Proteomics method development and optimisation, encompassing complete workflows of experimental and computational approaches	E
Conduct end-to-end analysis using diverse proteomics techniques	E
Publication of own research	E
Enthusiasm to work in an interdisciplinary environment towards the goal of developing improved cancer therapies	E
Good collaborative and communication skills	E
Highly motivated and strong desire for excellence	E
Can prioritise work to meet deadlines	E
Attention to detail and accuracy	E

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Ability to work independently and as part of a team	E
Proficient use of PCs (e.g. Microsoft Word, Excel and Powerpoint) and databases	E

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Benefits

We offer a fantastic working environment, great opportunities for career development and the chance to make a real difference to defeat cancer. We aim to recruit and develop the best – the most outstanding scientists and clinicians, and the most talented professional and administrative staff.

The annual leave entitlement for full time employees is 28 days per annum on joining. This will increase by a further day after 2 years' and 5 years' service.

Staff membership to the Universities Superannuation Scheme (USS) is available. The USS is a defined benefit scheme and provides a highly competitive pension scheme with robust benefits. The rate of contributions is determined by USS and details of the costs and benefits of this scheme can be found on their website. If staff are transferring from the NHS, they can opt to remain members of the NHS Pension Scheme.

We offer a range of family friendly benefits such as flexible working, a parents' group, and a maternity mentoring scheme. Other great benefits include interest free loans for discounted season tickets for travel and bicycle purchases, access to the NHS discounts website, a free and confidential Employee Assistance Programme which offers a range of well-being, financial and legal advice services, two staff restaurants, and access to a gym and sporting facilities at our Sutton site.

Further information

You may contact Prof Jyoti Choudary for further information by emailing Jyoti.choudhary@icr.ac.uk This job description is a reflection of the current position and is subject to review and alteration in detail and emphasis in the light of future changes or development.