

Job  
description

# Post-translational Modifications and Cell Proliferation

## Candidate Information

October 2024

<b>Department / division:</b>	<b>Post-translational Modifications and Cell Proliferation Group, Cancer Biology Division</b>
<b>Pay grade / staff group:</b>	Postdoctoral Training Fellow
<b>Hours / duration:</b>	Full time (35 hours per week), fixed term for 3 years
<b>Reports to:</b>	Dr Jörg Mansfeld, Group Leader

### Context

This Postdoctoral Training Fellow position is based in the Post-translational Modifications and Proliferation Group at the Chester Beatty Laboratories, Fulham Road in Chelsea, London.

#### Post-translational Modifications and Proliferation Group

The Post-translational Modifications and Proliferation Group investigates the intricate regulation of cell cycle control through post-translational modifications (PTMs). We focus on the interplay of thiol oxidation with phosphorylation and ubiquitylation in the context of cell cycle regulation. We employ cutting-edge mass spectrometry to identify PTMs, advanced gene-editing, and single-cell imaging to investigate the physiological impact of PTMs. Experimental models include 2D and 3D cell culture with a focus on non-transformed cell models and breast cancer. More information about our work can be found at <https://www.mansfeldlab.com>.

This position is offered on a fixed term contract for 3 years initially. Starting salary is in the range of £41,607 to £47,370 per annum inclusive based on previous postdoctoral experience, with pre-PhD level (i.e. completed viva but not awarded PhD) starting at £35,844. In addition to annual performance related pay awards, the salary scales are reviewed annually to consider cost of living increases. Annual leave entitlement is 28 days per annum. There is an additional entitlement to 8 bank/public holidays and 3 ICR-set privilege day

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### Main purpose of the job

Reactive oxygen species (ROS) are primarily generated in response to growth factors and as byproducts of mitochondrial respiration. During proliferation, these activities are closely associated with cell cycle progression and our findings suggest that ROS dynamically target several cell cycle proteins belonging to the ubiquitin system as well as factors involved in DNA replication and DNA damage repair. We are seeking a highly-motivated and ambitious candidate for a Postdoctoral Training Fellow position to functionally and mechanistically characterize redox modifications involved in these processes and to investigate adaptations occurring in breast cancer cells. The project will utilize mass spectrometry to identify oxidations that are differentially regulated in cancer, gene-editing techniques to screen for functionally relevant sites, and a combination of cell biology and biochemical approaches to uncover the underlying mechanisms. We collaborate with several groups in the ICR to confirm our findings from cells in animal models and patient samples. The successful candidate will have intellectual freedom in developing the project, with support from the Group Leader, whilst working as part of a collaborative and multi-disciplinary team.

Our team is embedded within the Cancer Biology Division at the ICR's Chester Beatty Laboratories in Chelsea, London. We have a highly supportive and interactive research environment, and state of the art facilities for cell biology, molecular biology, next-generation sequencing and structural biology. We also closely interact with other divisions at the ICR, including Breast Cancer Research, Radiotherapy and Imaging, and Structural Biology. The great variety of disciplines at the ICR will ensure that the successful candidate will be exposed to fantastic research and seminars from all types of backgrounds.

### Further information

You may contact Dr Jörg Mansfeld for further information by emailing [jorg.mansfeld@icr.ac.uk](mailto:jorg.mansfeld@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.

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### Duties and responsibilities

#### Specific

To co-design and carry out a research plan to understand how redox modifications regulate cell cycle progression by impacting on phosphorylation and ubiquitylation activities in cellular models.

To work semi-independently in order to develop this plan.

To interact with the Group Leader and regularly update on progress and issues.

To keep accurate and accessible records of experiments and data.

To take an active interest and stay up-to-date on the relevant literature.

To present at lab meetings, conferences and journal clubs.

To work as part of a collaborative team, and support colleagues within the group.

To draft and co-write manuscripts resulting from the project.

To train and support junior team members.

To carry out an allocated part of shared lab duties.

To support the maintenance of laboratory equipment.

To work independently but seek out support when needed.

#### General

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.

Any other duties that are consistent with the nature and grade of the post that may be required.

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.

#### Workforce Agreement for Postdoctoral Training Fellows

The ICR has a workforce agreement stating that Postdoctoral Training Fellows can only be employed for up to 7 years as PDTF at the ICR, providing total postdoctoral experience (including previous employment at this level elsewhere) does not exceed 10 years.

# Post-translational Modifications and Cell Proliferation

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### Person specification

#### Education and Knowledge

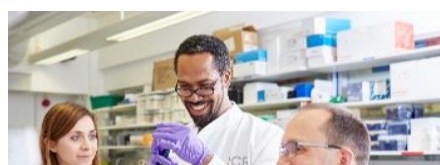
PhD in molecular biology, cell biology, biochemistry or similar	Essential
Extensive background and knowledge in either cell cycle, DNA replication/DNA damage, ubiquitin or redox biology	Essential
Knowledge in cancer biology	Highly Desirable
Strong background in first author publications (manuscripts under review are also considered)	Highly Desirable

#### Experience

Proven experience in working with human cell culture (sterile human tissue cell culture technique)	Highly Desirable
Proven experience in state-of-the-art molecular, cell biological and biochemical techniques	Essential
Proven experience in light microscopy	Highly Desirable
Proven experience in expression and purification or recombinant proteins	Highly Desirable

#### Skills

Ability to design, carry out and interpret experiments.	Essential
Ability to write scientific manuscripts.	Essential
Excellent communication and presentation skills.	Essential
Excellent computer literacy and ability to analyse images using tools such as ImageJ or CellProfiler	Essential
Scripting skills using a language such as Python, R, MATLAB, or Mathematica	Highly Desirable
Ability to multi-task, to perform under tight deadlines without compromising results, and to deal with as well as learn from failed experiments.	Essential
Ability to plan and prioritise work.	Essential
Track record of applying to and obtaining fellowships.	Highly Desirable
Ability to work as part of a team	Essential
Willingness to learn new skills	Essential



#### About our organisation

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The Institute of Cancer Research, London, is one of the world's most influential cancer research institutions with an outstanding track record of achievement dating back more than 100 years. Our mission is to make the discoveries that defeat cancer.

As well as being one of the UK's leading higher education institutions in research quality and impact, the ICR is consistently ranked as one of the world's most successful for industry collaboration. As a member institution of the University of London, we also provide postgraduate higher education of international distinction.

We are also a charity and rely on the support of partner organisations, funders, donors and the general public.

[Read more](#) to find out about our history, culture, and achievements, and how our funders, supporters and partnerships help drive our work.

### 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'.



***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

