ICR The Institute of Cancer Research

Postdoctoral fellow

May 2025

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.

Biological enhancement of radiotherapy and Stromal Radiobiology Groups

The Biological enhancement of radiotherapy and Stromal Radiobiology Groups (led by Magnus Dillon and Anna Wilkins) aim to understand how the tumour microenvironment drives radiotherapy resistance. The groups focus on gastrointestinal and bladder cancers with an emphasis on integrating findings from preclinical models and patient samples.

The immunostimulatory effect of radiation is often restrained by suppressive cells in the tumour microenvironment. These include certain populations of cancer-associated fibroblasts, macrophages, myeloid-derived suppressor cells and tumour-associated neutrophils. Both fibroblast and macrophage activation and polarity can be affected by radiation, with dose-dependent effects. The effect of dose-rate is unknown, but delivering radiation at ultra-high dose-rates (FLASH) is believed to have reduced effects on normal tissues, including immune cells. Microbeam radiotherapy offers the opportunity to modulate different spatially-distributed populations by exposure to different radiation doses. Using these technologies may allow the delivery of radiation which (a) preserves and (b) stimulates anti-tumour immune cells, when compared to standard treatment.

Postdoctoral fellow
Candidate Information

This project will examine the effect of modulating radiotherapy, through advanced technologies including FLASH and microbeam radiotherapy, and through addition of novel drugs to radiation. Using immunocompetent mouse models of bladder, pancreatic and gastrointestinal cancers and human translational specimens, the project will focus on how radiation-induced activation of these populations can be modulated to improve the anti-tumour immune response. Other projects in the lab are examining the effect of microbeam and FLASH from the point of view of lymphoid populations and antigen-specific responses. This project will complement that work and give us a comprehensive view of the immune response to advanced radiation technologies, providing clinically-tractable combination strategies.

We are seeking a highly motivated, proactive and well-organised individual to work across both teams. The post-holder will have extensive hands-on experience in *in vivo* mouse work and hold a current Home Office Personal Licence PIL modules (AB&C). Experience of performing immunological assays including flow cytometry, analysis of spatial data such as multiplex immunofluorescence or spatial transcriptomic data would be advantageous. The post-holder will perform in vivo murine experiments in pre-clinical projects using radiotherapy and/or systemic therapy. In addition, the post-holder will carry out research using human samples including management, processing and analysis of clinical patient samples. The postholder will work in close collaboration with colleagues in the Centres for Cancer Imaging and Translational Immunotherapy.

Division of Radiotherapy and Imaging

The Division of Radiotherapy and Imaging brings together research groups that work on how to use radiation therapy, guided by state-of-the-art imaging techniques, in the most effective way to cure cancer. Our work is based on the central idea that the best outcomes will be achieved by delivering curative radiation doses to tumours, while limiting radiation damage of neighbouring normal tissues. Our therapy often includes adding drug treatments alongside radiation therapy as a means of killing cancer cells more effectively and, at the same time, activating anti-tumour immune responses. Preclinical work includes research that combines radiation therapy with radiation sensitisers and biological response modifiers (for example innate immune activators, immune checkpoint inhibitors) to maximise anti-tumour efficacy and give protection against tumour recurrence. Multiple translational clinical studies seek to address these themes through our collaborators in the Royal Marsden. Overall, our mission is to cure more patients with fewer immediate and long-term side effects of treatment.

Postdoctoral fellow
Candidate Information

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**

Postdoctoral fellow
Candidate Information

Job description

Department / division:	Radiotherapy and Imaging
Pay grade / staff group:	Scientific Professional 5 - Higher Scientific Officer (HSO)
Hours / duration:	Full-time (35 hours per week). It may be necessary for the post-holder to work outside hours to meet specific deadlines. Monday to Friday. Fixed-term contract for 4 years (potentially renewable)
Reports to:	Dr Magnus Dillon and Dr Anna Wilkins
Main purpose of the job:	To perform *in vivo* mouse experiments combining radiotherapy (FLASH and microbeam) and systemic therapy in GI and bladder cancer models. To conduct human translational research using patient samples.

Duties and responsibilities:

Main duties and responsibilities

Design, execute, analyse and interpret *in vitro, in vivo* and *ex vivo* experiments alongside other members of the team, with a focus on FLASH and microbeam radiotherapy
Hands on technical work with murine models, including orthotopic implantation via ultrasound guidance or surgical implantation
To facilitate completion of studies in the BSU and provide data, in a timely and accurate manner.
To advise on and implement best practice for achieving optimum results in line with the 3Rs, to ensure that animal welfare and outstanding science are delivered.
Keep accurate records of data for Home Office compliance including adverse events, animal health and welfare data and preparation of data for Home Office Returns.
To manage human samples, including receipt of samples and accurate maintenance of databases and safe sample storage according to HTA regulations and local guidelines
To perform multi-colour/spectral flow cytometry and immunofluorescence/spatial analysis on preclinical and clinical samples (training can be provided)
To develop and deliver other translational laboratory research projects
Work in a flexible but organised manner to meet objectives/deadlines.
Work and communicate effectively with other members of the team.

Postdoctoral fellow
Candidate Information

Work across animal facilities and human translational laboratories at both ICR sites (Fulham and Sutton)
Undertake any other duties that may be required which are consistent with the nature and grade of the post.
Present and publish findings in respected meetings and journals

Other responsibilities

Liaising with collaborators from other teams at ICR and external commercial partners as required.
Ensuring adequate record keeping and documentation of all experiments and developed source code.

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.
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.

Postdoctoral fellow
Candidate Information

Person specification

Education and Knowledge

Extensive hands-on experience in *in vivo* mouse work and hold a current Home Office Personal Licence PIL modules (AB&C).	Essential
BSc. (or equivalent) in a biological science	Essential
PhD	Essential
Experience of working with clinical samples	Desirable

Skills

The post-holder will be highly skilled with a wide range of Regulated Procedures including, injections of cells or drug compounds using subcutaneous, intravenous, intratumoural, intraperitoneal injections, as well as blood sampling (tail vein and cardiac punctures).	Essential
The successful candidate will be expected to maintain accurate records on project management databases including LabTracks to ensure compliant recording under the various guidance and legal frameworks.	Essential
Ability to coordinate, plan and execute research to a high standard	Essential
Good communication skills and the ability to foster collaborative projects	Essential
Ability to prioritise a busy workload and work effectively	Essential
Good organisational skills and attention to detail	Essential
Experience of working under pressure and adhering to established deadlines	Essential
Willingness to train other team members	Essential
Willingness to collaborate and contribute to ongoing scientific projects	Essential

Experience

Experimental techniques (regulated procedures)	Essential
In vivo experiments and holder of Home Office Licence for murine in vivo work	Essential
Highly skilled with a wide range of Regulated Procedures including, injections of cells or drug compounds using subcutaneous, intravenous, intratumoural, intraperitoneal injections, as well as blood sampling (tail vein and cardiac punctures).	Essential
Experience in RNA/DNA extraction from tissue/cells/liquid samples	Desirable
Experience in immunology and histology assays including FACS/immunofluorescence	Desirable
Experience in human sample collection, processing and analysis	Desirable

Postdoctoral fellow
Candidate Information

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 Anna Wilkins or Magnus Dillon for further information by emailing anna.wilkins@icr.ac.uk or magnus.dillon@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.