



Research Fellow in Cancer Data Science and Epidemiology

Candidate Information

Date: September 2026

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 second in the league table of university research quality compiled from the Research Excellence Framework (REF 2021). 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.

About the research group and post

The Integrative Cancer Epidemiology group at The Institute of Cancer Research (ICR; <https://www.icr.ac.uk/research-and-discoveries/icr-divisions/genetics-and-epidemiology/integrative-cancer-epidemiology/>) uses large-scale population data to investigate the causes of cancer, understand carcinogenic processes, and improve risk prediction for precision prevention. The group is part of the Cancer Epidemiology and Prevention Research Unit (CEPRU; <https://www.cepru.ac.uk/>), a joint initiative between the ICR and Imperial College London focused on

Candidate Information

Research Fellow in Cancer Data Science and Epidemiology

advancing cancer epidemiology through interdisciplinary research and training.

A central resource for the team is the Breast Cancer Now Generations Study (<https://thegenerationsstudy.co.uk/>) and international consortia. The Generations Study is a national cohort of over 110,000 women in the UK followed since 2004. This study has extensive information on lifestyle and reproductive factors, biological samples, genetic and biomarker data, tumour pathology, mammography imaging and linkage to national health records. The team also leads and contributes to international consortia and collaborative studies.

Research in the team focuses in integrating diverse data modalities using advanced statistical and AI methods, including emerging life-sciences foundation models, to investigate cancer aetiology, identify biological and clinical subtypes, and develop robust models of cancer risk that can inform prevention, screening and early detection.

We are looking for a motivated quantitative researcher to apply innovative methods in epidemiology, statistics and data science to multimodal cancer research. The successful applicant will work in a collaborative and internationally connected research environment, with opportunities to lead analyses, develop new expertise and contribute to high-impact scientific publications.

The role will be based at the ICR's Sutton campus. Flexible, hybrid ways of working may be considered in line with ICR arrangements and the needs of the team.

Our mission
is to make the
discoveries that
defeat cancer.

Candidate Information

Research Fellow in Cancer Data Science and Epidemiology

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

Candidate Information

Research Fellow in Cancer Data Science and Epidemiology

Description

Department / division:	Integrative Cancer Epidemiology/Division of Genetics and Epidemiology
Pay grade / staff group:	Research Training Fellow 1-2 Appointment is expected at Research Training Fellow 2 level (Senior Research Fellow), although outstanding candidates with less experience may be appointed at Research Training Fellow 1 (post-doctoral) level.
Hours / duration:	Full time (35 hours per week), Monday to Friday. Fixed term contract for 2 years in the first instance, with a view to extension subject to funding.
Reports to:	Professor Montserrat Garcia-Closas
Accountable to:	Professor Montserrat Garcia-Closas
Main purpose of the job:	We are seeking an experienced research fellow to lead data integrative analyses in large-scale epidemiological studies of cancer. The postholder will apply advanced statistical and AI methods, including emerging life-sciences foundation models, to understand cancer aetiology and improve risk prediction. This is an excellent opportunity for candidates interested in using innovative data-driven approaches, working closely with epidemiologists, data scientists, biostatisticians, and data engineers, contributing to high-impact research on cancer risk and prevention.

Candidate Information

Research Fellow in Cancer Data Science and Epidemiology

Duties and responsibilities:

Key Duties and Responsibilities

Multimodal data science and cancer epidemiology research

- Lead applied analyses integrating questionnaire, wearable, genetic, biomarker, imaging, pathology and linked health data from large-scale epidemiological studies and international consortia.
- Apply advanced statistical methods, machine-learning and emerging life-sciences foundation models across epidemiological, imaging, pathology and molecular data to investigate cancer aetiology and improve risk prediction.
- Critically evaluate their validity, interpretability, calibration, generalisability and added value over established epidemiological models.
- Develop reproducible analytical workflows and interpret findings in their epidemiological, biological and clinical context.

Scientific collaboration and communication

- Work closely with multidisciplinary collaborators across CEPRU and with national and international study partners.
- Lead scientific publications and presentations, and contribute to research protocols, analysis plans and grant applications.
- Conduct research in accordance with relevant ethical, data-governance and reproducibility requirements.

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.

Candidate Information

Research Fellow in Cancer Data Science and Epidemiology

Person specification

Education and Knowledge

PhD, or equivalent research experience, in computer sciences, epidemiology, biostatistics, machine learning or a closely related quantitative discipline	Essential
Strong knowledge of analytical methods relevant to epidemiological and biomedical research, including machine-learning methods for high-dimensional or multimodal data	Essential
Good understanding of epidemiological study design, bias and interpretation	Essential
Familiarity with foundation models, representation learning or generative AI methods for life-sciences data	Desirable

Experience

Experience analysing complex epidemiological, biomedical or population-based research data	Essential
Experience applying advanced statistical or machine-learning methods to substantive research questions	Essential
Experience programming in R or Python and producing clear, reproducible analytical code	Essential
Experience preparing scientific manuscripts and communicating research findings	Essential
Evidence of research achievement appropriate to career stage, including peer-reviewed publications or equivalent outputs	Essential
Experience integrating or jointly analysing two or more data modalities	Desirable
Experience with cohort or case-control studies of cancer, including rare cancers or cancer subtypes	Desirable

Candidate Information

Research Fellow in Cancer Data Science and Epidemiology

Person specification

Skills

Advanced analytical and quantitative problem-solving skills	Essential
Ability to select, justify and critically evaluate statistical and computational approaches	Essential
Ability to interpret complex results in their epidemiological and biological context	Essential
Strong programming skills in R, Python or both	Essential
Ability to write reproducible, well-documented and maintainable research code	Essential
Ability to work independently, manage priorities and deliver agreed outputs	Essential
Ability to work effectively within multidisciplinary and international collaborations	Essential
Excellent written and verbal communication skills	Desirable
Familiarity with version control, preferably Git or GitHub	Desirable
Experience with high-performance or cloud computing environments	Desirable

Candidate Information

Research Fellow in Cancer Data Science and Epidemiology

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 Professor Montserrat Garcia-Closas for further information by emailing montse.garcia-closas01@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.