ICR The Institute of Cancer Research

Data Scientist
Candidate Information

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. The ICR was the second-ranked academic research centre in the UK- according to the Times Higher Education league table of university research quality and impact compiled from the Research Excellence Framework (REF 2021) - and first for biological sciences.

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.

Data Science at the ICR

The ICR is recruiting a Data Scientist to enhance our data science capabilities. The person will join an existing team of 4 other Data Scientists, who enable and support Data Science research across the whole Institute. The role will have particular emphasis on the analysis of spatial data (including multiplex immunohistochemistry, H&Es and spatial transcriptomics) and will require the post-holder to stay abreast of new developments in the field and provide training to colleagues. It is universally recognised that Data Science is a core component of research across the spectrum of activities ongoing at the ICR, enabling ICR's strategic vision to understand the complex ecosystem of cancer by fully realising the knowledge within internal and external datasets.

Data Science Steering Committee

The role is line managed by the chair of the Data Science Committee (Professor Trevor Graham), providing academic leadership of data science at the ICR to maximise the impact of our cancer research, by

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applying innovative data science and computation tools (in addition to our traditional areas of strength) to tackle the important cancer questions and ensuring infrastructure is considered to enable this.

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."*

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Professor Kristian Helin
Chief Executive

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Job description

Department/division:	Cancer Biology
Pay grade/staff group:	Analytical Scientist Grade 2(dependent on experience)
Hours/duration:	Full time (35 hours per week), Monday to Friday. Fixed-term contract for 3 years
Reports to:	Data Science Steering Committee. Current Chair: Professor Trevor Graham, Director of the Centre for Evolution and Cancer
Main purpose of the job:	Support data science research across the ICR.

Duties and responsibilities:

Analysis of specific data

We are looking to recruit a Data Scientist to work on the analysis of spatial data. This includes:

- Leading computational analyses based on digital pathology and other spatial data (multiplex immunohistochemistry, spatial transcriptomics, etc.)
- The emphasis is on end-stage analysis about functional annotation and interrogation of spatial patterns in these datasets, where the expectation is that post-holders' work will begin with already-segmented and annotated images.

Although the focus will be on the analysis of spatial data as above, there will be opportunities to work on multi-omic bulk and single-cell data:

Integrative analysis of genomic datasets:

- Establish best practice and facilitate iterative optimisation of analytical pipelines for sequencing and other omics data.
- Provide analytical support for target validation

Analysis of single-cell data:

- Establish best practice pipelines for the analysis of single-cell sequencing data (RNA/DNA/ATAC or other, and multi-omic analyses), particularly end-stage analysis about functional annotation and interrogation of these datasets.
- Provide analytical support for ICR groups utilising ICR single-cell technology

Supporting data science at the ICR

The individual will identify and work on projects that are initiated anywhere within the ICR. Projects can be short (<3 months) or substantially longer.

Work on projects and in specific Divisions/Centres/Teams as agreed by the Data Science Team leadership.

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Provide analytical support for ICR groups working in the specific area of focus (e.g., large datasets, single cell data or spatial data).

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.

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Person specification

Education and Knowledge

PhD in quantitative subject, or likely to be awarded PhD in the near future. Research experience equivalent to PhD level will be considered.	Essential
Undergraduate degree, or Masters or equivalent in a quantitative subject	Essential

Skills

Skills in bioinformatics computing coding, in languages including R, Python and other scripting languages as is appropriate.	Essential
Good communication skills and the ability to interact effectively with a diverse range of individuals across the ICR.	Essential
Good observation skills, attention to detail and ability to keep appropriate records.	Essential
Ability to work independently and to demonstrate initiative in planning and designing experiments.	Essential
Good time management skills and a proven ability to organise and prioritise workload to meet deadlines.	Essential
Ability to prepare scientific reports and present data at regular project meetings.	Essential
General computer literacy with ability to use e.g., MS Office, web-based tools and databases.	Essential

Experience

Experience of using high performance computing (HPC) systems for scientific computing	Essential
Experience of computational biology research methodologies pertinent to the role	Essential
Experience of statistical methodologies pertinent to the role	Essential
Publication record commensurate with experience	Essential
Ability to interpret the scientific literature and incorporate this into the project	Essential
Proven ability to work effectively in an interdisciplinary team	Essential
Proven ability to maintain accurate and up to date records	Essential
Understanding of the research process	Essential

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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 Trevor Graham for further information by emailing Trevor.Graham@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.