



Bioinformatic Scientist Candidate Information

October 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.

Targeted Therapies Team, Division of Radiotherapy and Imaging

Our recently established, CRUK-funded Radiation Research Centre of Excellence at The Institute of Cancer Research and Royal Marsden NHS Foundation Trust aims to deliver novel therapeutic strategies to optimise radiotherapy treatments for patients with cancer. This is closely aligned to our [Centre for Translational Immunotherapy](#), with a focus on the immune consequences of radiotherapy treatment.

The focus of our growing and dynamic team of scientists and clinicians is to develop better treatments through understanding how radiotherapy treatment kills or modulates cancer cells and their surrounding microenvironment. We are seeking to leverage our large clinical sample datasets in head and neck and bladder cancers, complemented with pre-clinical work, to deliver insights that will underpin the next generation of biologically-driven clinical trials in radiotherapy.

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 Radiotherapy and Imaging
Pay grade / staff group:	Scientific Professional
Hours / duration:	Full time (35 hours per week), Monday to Friday. Fixed term contract for 3 years
Reports to:	Ben O'Leary
Main purpose of the job:	Develop and apply state-of-the art bioinformatics approaches to support the analysis of large-scale, multi-dimensional genomic and clinical datasets for a wide range of research projects and prospective clinical trials.

Duties and responsibilities:

Specific duties

Apply broad bioinformatics and biostatistics analysis expertise to support multiple projects.
Process and analyse state-of-art sequencing data including whole genome, whole exome, targeted panel sequencing, RNAseq and TCRseq data.
Develop, maintain and update bioinformatics pipelines using scripting and programming languages such as Perl, Python and R.
Evaluate, optimize, apply and integrate new bioinformatics tools in existing pipelines.
Big and multi-dimensional data solution implementation with aim to generate a unique and retrievable bio-resource.
Explore and initiate your own projects with the research focus of the wider group

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.

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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

BSc in Maths, Statistics, Computer Science, Bioinformatics, Biology/Life Sciences or relevant subject	E
PhD in Cancer Biology, Genetics or associated subject	D
Proven knowledge in computational biology and genomic research	E
Knowledge of cancer biology	D

Skills

Established bioinformatics and biostatistical skills	E
Able to construct and execute bioinformatics pipelines	E
Critical thinking	E
Ability to act as a service provider to numerous projects	E
Excellent organisational skills and attention to detail	E
Proven skills of using Unix and shell/bash	E
Proven skills of using other languages such as Perl, Python, R	E
Other programming languages	D

Experience

Proven experience on using scripting languages such as Perl, bash	E
Understand data flow and experience in developing pipeline using scripting language	E
Proven experience in processing and analyzing large-scale biological data	E
Proven experience in biostatistics to answer biological questions	D
Proven experience of applying bioinformatics tools	E
Proven experience in interpretation genomic data	D
Experience of working within a multi-disciplinary team involving bioinformaticians, clinicians and biologists	D
Experience in cancer genetics	D

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General

Ability to work independently and as part of a team	E
Good project management skill	E
Good communication and presentation skills	E
Willing to learn new concepts	E
Ability to maintain good and accurate records	E
Highly motivated	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 Ben O'Leary for further information by emailing Ben.OLeary@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.