Research Software Engineer
Candidate Information

June 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.

Scientific Computing & Digital Services

The Scientific Computing (SC) team provides a number of key services to researchers across the ICR, including High Performance Computing (HPC), Research Data Storage (RDS), Research Data Management (RDM) and Scientific Software.

SC is part of the wider Digital Services department which provides IT support and services to both corporate and research staff.

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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<table>
<tr><td>Job description</td><td colspan="2"></td></tr>
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Department / division:	Scientific Computing / Digital Services
Pay grade / staff group:	Professional Services 4
Hours / duration:	Full time (35 hours per week), Monday to Friday.
Reports to:	Scientific Software Lead
Main purpose of the job:	Development of bespoke scientific software, supporting research teams with existing software and promoting good software development practices

Duties and responsibilities:

Objectives

The main purpose of the role is to collaborate with research teams across the ICR to develop robust, high quality, bespoke scientific software. The development of custom software accelerates progress by enabling new avenues of research and allowing researchers to focus more on science and less on software wrangling.

Provide specialist support in the use of existing software, by assisting with installation and use, as well as ensuring efficient use of SC infrastructure. This includes scientific software and development tools (e.g. version control systems).

Contribute to computational skills training at the ICR. This will include the delivery of formal training courses and informal promotion of good software development practices (e.g. testing, version control).

Proactively engage with research teams across ICR to identify common problems and opportunities that can be addressed by the Scientific Software Group.

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Duties and Responsibilities

To develop bespoke scientific software for research teams
To support the best use of scientific software on SC infrastructure
To assist in the delivery of scientific software projects – capture requirements, feasibility studies, plan resources and approach, deliver projects on time, report on progress, produce documentation and training as necessary
To promote good software development practices across the ICR, e.g. for version control, testing, publication and licensing
To provide specialist knowledge to support users of current services – installation, optimisation, debugging, development
To contribute to the delivery of technical training courses (e.g. programming, version control)

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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<table>
<tr><td rowspan="3">**Person specification**</td></tr>
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Person specification	Education and Knowledge	
	Degree in computer science, physics, mathematics, biology or a closely related field and significant exposure to a research environment.	Essential
	Masters or PhD in computer science, computational biology, physics, mathematics, biology or closely related field.	Desirable

Skills

Ability to rapidly acquire fluent knowledge of new programming languages, libraries and technologies	E
Good written and verbal communication skills including the ability to effectively convey complex or technical information to non-specialist audience	E
Ability to proactively identify and initiate new projects	E
Ability to manage complex projects with multiple stakeholders	E
Customer service-oriented outlook and approach	E
Experience of working under pressure and adhering to established deadlines	E
Ability to plan, organise, prioritise, and execute work independently in an effective manner	E

Experience

Significant experience of using, developing and supporting scientific applications in one or more of the following areas: image processing, scientific visualisation, bioinformatics, genomics, mathematics, statistics or a closely related area.	E
Significant experience of at least one programming language used in research (e.g. Python, R, Julia, MATLAB, C/C++, Java, Perl, Fortran).	E
Significant experience of at least one additional language from the above list.	D
Experience of applying modern machine learning (including deep learning) frameworks (e.g. scikit-learn, TensorFlow, PyTorch) in a research environment (or equivalent).	D
Experience of version control systems (e.g. git)	E
Experience or knowledge of software development best practises such as issue tracking, unit testing and continuous integration	E
Experience of data visualisation using Shiny, Dash or related technologies.	D
Experience using containers (e.g. Docker, Singularity)	D
Experience of delivering well documented software projects	D

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Experience of working with or creating bioinformatics or other data processing pipelines	D
Experience with delivering software under a formalised project environment	D
Experience of a scientific research environment either as a researcher, a medical researcher or working closely with researchers	D
Experience publishing and releasing software both within and outside the organisation, including a familiarity with licensing.	D
Experience of creating and/or delivering training courses	D

General

Good team player with the ability to work independently	E
Proactive and solution-oriented problem solver	E
An understanding and empathy with the ICR's values	E
Ability to keep up-to-date and learn about new technologies relevant to scientific software development and on-going projects	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 Jon Lockley for further information by emailing jon.lockley@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.