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# Microscopist & Image Analyst

## Candidate Information

15/06/2022

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### 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.

#### Chelsea Light Microscopy Facility

A Higher Scientific Officer position is available from September 2022 in the Chelsea Light Microscopy Facility, based in Chelsea. You would be joining an enthusiastic light microscopy team in supporting/implementing world class microscopy experiments at the ICR.

The light microscopy facility in Chelsea is equipped with state of the art instruments and consists of 3 distinct parts:

- The Advanced Light Microscopy Facility which houses 9 microscopes - a Lattice Lightsheet, DiSPIM, TIRF/STORM, two Spinning disks (one with photomanipulation), a point scanning confocal, and two widefields.
- The High Content Screening Facility which houses 4 microscopes – Molecular Device's Image Xpress Microconfocal, Perkin Elmer's

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Opera Phenix Plus, Nexceloms Celigo S Image Cytometer, and a homebuilt Oblique Plane Microscope.

- The Image Analysis Suite – 7 computers for image analysis using various open source software (FIJI, Cell Profiler, Python/Napari/Ilastik, etc) and commercial software (Aivia, MetaXpress, Harmony, Signals Image Artist/Columbus, Celigo, Imaris, Volocity, etc)

The objective of this post is to work alongside the rest of the light microscopy team to provide microscopy support within this cutting-edge facility, as well as image analysis support, to facility users. This will include: performing regular quality control and maintenance of the microscopes; advising facility users on the best techniques and providing applications advice; giving detailed one to one training sessions to our researchers on how to use the advanced instrumentation for their studies; designing detailed image analysis protocols; and assisting in the experimental design of high content screens. The post-holder will also be expected to participate in giving regular training courses to members of the institute in microscopy and image analysis in collaboration with the rest of the light microscopy team.

At the ICR we aim to defeat cancer through scientific excellence, innovation and partnership. These principles also underpin our approach to scientific infrastructure, which is among the very best of any research centre in the UK.

### **Core Research Facilities, Academic Services**

ICR benefits from our continual investment in world-leading scientific services that combine cutting-edge equipment with a highly skilled workforce. We are proud to have a number of core facilities within the ICR that provide this resource to our researchers:

- Breast Cancer Now Histopathology
- Flow Cytometry
- Light Microscopy and Confocal Microscopy
- Mechanical Workshop
- Proteomics and Metabolomics
- Genomics

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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

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|---------------------------------|---|
| <b>Department / division:</b>   | Core Research Facilities  |
| <b>Pay grade / staff group:</b> | Scientific Professional 5/Higher Scientific Officer   |
| <b>Hours / duration:</b>        | Full time (35 hours per week), Monday to Friday.  |
| <b>Reports to:</b>              | Kai Betteridge, Light Microscopy Facility Manager   |
| <b>Main purpose of the job:</b> | To provide microscopy and image analysis support to members of the Institute of Cancer Research |

### Duties and responsibilities:

#### Experimental Laboratory Work

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| To provide support in microscopy.  |
| To provide training in using advanced microscopy systems to users of the facility.                               |
| To design and implement advanced image analysis pipelines for users of the facility.                             |
| To operate and maintain several microscopy platforms under the supervision of Kai Betteridge                     |
| To interact with the members of the institute to advise on experimental design and data analysis.                |
| To maintain accurate records of the work in the facility.  |
| To perform regular QC and maintenance of microscopes to ensure continued operation and keep logs.                |
| To liaise with service engineers when required for instrument maintenance and while they are on site.            |
| To support users in setting up and implementing live cell imaging methods and/or high content microscopy screens |

#### General Laboratory Management and Work

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| To take day-to-day responsibility for maintaining supplies, stocks and equipment in the facility.                                     |
| Ensure that work conforms to the requirements of COSHH, Local Rules and other Codes of Practice as required by the ICR Safety Policy. |
| To work in a flexible, organised, and independent manner.   |
| To plan and prioritise work and meet objectives within pre-determined timescales  |

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To work as part of a team, be enthusiastic about learning, and take an interest in the relevant literature and their personal development.

To maintain and improve skills in microscopy and advanced image analysis

### 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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## Candidate Information

### Person specification

#### Education and Knowledge

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| BSc. in Molecular Biology/Analytical Chemistry/Biochemistry/Physics/Bio informatics, preferably in a discipline related to optics / computing or related subject | Essential |
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#### Skills

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|---|-----------|
| Demonstrated good laboratory and analytical skills  | Essential |
| Meticulous attention to detail for record keeping and proven ability to keep accurate records | Essential |
| Proficient use of IT and bioinformatic databases  | Essential |

#### Experience

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|--|-----------|
| Previous experience in/knowledge of advanced microscopy methods  | Essential |
| Documented experience in at least some of the advanced image analysis software available, ranging from commercial software to the main open source tools and custom scripts in FIJI (ImageJ Macro Language), Python/Napari and MatLab will be essential. | Essential |
| Previous knowledge in live cell timelapse imaging and/or high content microscopy   | Essential |
| Proven knowledge of contemporary microscopy is essential   | Essential |
| Previous experience in working in a shared facility  | Desirable |
| Previous use of Lightsheet or super-resolution microscopy technology and its analysis  | Desirable |
| Knowledge and practical experience of working with health & safety regulations e.g.COSHH   | Desirable |

#### General

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|--|-----------|
| Excellent interpersonal skills with the ability to establish effective working relationships                             | Essential |
| Proven ability to work flexibly and independently  | Essential |
| Proven ability to plan, organise and prioritise a busy workload to meet deadlines and maintain a high degree of accuracy | Essential |
| Proven good verbal and written communication skills  | Desirable |
| Proven ability to follow instructions, protocols and guidance  | Desirable |

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### Benefits

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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 Kai Betteridge for further information by emailing [kai.betteridge@icr.ac.uk](mailto:kai.betteridge@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.