

## **The Institute of Cancer Research**

### **Division of Molecular Pathology**

#### **Post-doctoral Training Fellow – Bioinformatics**

Sutton, Surrey

We seek a motivated postdoc to join the Computational Pathology and Integrative Genomics team led by Dr. Yinyin Yuan in a highly interdisciplinary project with Prof. Carlo Maley at Arizona State University, Dr Andrea Sottoriva at ICR and Prof Trevor Graham at Barts Cancer Institute. ICR were ranked first in the [Times Higher Education](#) league table of UK university research quality from the most recent Research Excellence Framework (REF 2014) for our high impact publications. 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. Our Cancer Research UK Cancer Therapeutics Unit is the largest academic cancer drug discovery and development group worldwide. We discover more new cancer drugs than any other academic centre in the world.

The Yuan lab at ICR develops pioneering deep learning approaches for the analysis of histopathological images and explores new ways to integrate image data with genomics ([www.yuanlab.org](http://www.yuanlab.org)). We specialise in the application of spatial statistics to harness rich spatial information in these images, which has been underused but provides crucial context for the understanding of the tumour microenvironment, and further, cancer evolution that could lead to treatment failure.

The successful post holder will develop exciting new computational pipelines for integrating digital pathology data, generated from histopathology and cutting edge multiplex images from CODEX and/or CyTOF, with omics data in colorectal cancer. He/she will enjoy the highly collaborative environment at ICR and in this research program, and work closely with an international, highly recognised team consisting of biologists, clinicians, ecologists and computer scientists. He/she will have the opportunities to learn about latest cutting-edge biotechnologies/methods including deep learning, single-cell sequencing and high dimensional multiplexing, travel to conferences and partner institutes, excel in coordinating between programming and explore new research areas in medicine through collaborations.

Applicants must hold a PhD in Computer Science, Bioinformatics, Engineering, Ecology, Physics, Mathematics or Statistics. Knowledge/experience in medicine or deep learning is desirable but not essential.

Appointment will be on a Fixed Term Contract for 2 years, with a starting salary in the range of £30,715 to £36,433 p.a. inclusive, depending on experience. There is potential to progress on the salary scale up to £43,898 p.a. inclusive. The successful candidate will be based in Sutton, Surrey.

**To apply, please upload your CV and complete an application form online**

## **JOB DESCRIPTION**

### **DUTIES AND RESPONSIBILITIES**

- To develop deep learning tools for image-omics integration through programming in Python, Matlab, or equivalent language
- To use statistical tools for further analysis of spatial data generated from image analysis
- To contribute to the publication of high quality research in the form of papers, patents, and regular presentations at group and cross-institutional meetings.
- To work independently on a defined project and as part of an international team, and to consult when appropriate.
- To communicate effectively with other members of the team and collaborators, where necessary, across multiple sites.
- Be familiar with ICR's approach towards risk management including its policies and procedures, which require all staff to play an active part in identifying and managing risk.

**Any other duties which may be required which are consistent with the nature and grade of the post.**

**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.**

**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.**

**ICR has a workforce agreement stating that the maximum length of employment for Post-doctoral Training Fellows should be no more than 7 years within ICR and no more than 10 years total postdoctoral employment (at ICR and elsewhere). Consequently, you should be aware that the length of contract offered will be limited by this agreement as well as the availability of funding.**

To apply please include the following to your application:

- **A full CV with a publication List**
- **Supporting Statement including the names and contact details of two referees**
- **Research plan (one to two pages outlining your current research interests and research plans for the next 2 years)**

## PERSON SPECIFICATION

Post-doctoral Training Fellow

Criteria	Essential or Desirable?
<b>Education &amp; Knowledge</b>	
PhD in computer science, statistics, engineering or related subjects*	E
Knowledge in biomedicine or histopathology	D
<b>Experience</b>	
Image analysis, machine learning and statistics	E
Programming in Python, Matlab, C, R or equivalent languages	E
Deep learning	D
Good publication record	E
Working with medical or histopathology images	D
Working in collaborative research	D

<b>Skills</b>	
Good communication skills and the ability to interact effectively with collaborators	E
Ability to interpret and present results in conferences	E
Excellent communication skills	D
<b>General</b>	
Highly self-motivated with scientific curiosity	E
A keen desire to produce high quality scientific data	E

*\* as a minimum requirement candidates must have submitted their thesis by the start date of their employment and been awarded their PhD within the six month probationary period.*