

The Institute of Cancer Research

Division of Molecular Pathology

Post-doctoral Training Fellow – Image analysis

Sutton, Surrey

We seek a highly motivated postdoc to join the Computational Pathology team led by Dr. Yinyin Yuan in a collaborative project with a leading cancer evolution team led by Prof. Carlo Maley at Arizona State University. 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 main focus of the Yuan lab is to develop new computer vision and deep learning tools for large-scale analysis of tumour pathological images (www.yuanlab.org). We have also pioneered the use of spatial statistics to capture the rich spatial information in these images. The successful candidate will lead the development of pathological image analysis as part of an international collaborative program for studying cancer heterogeneity and evolution through the integration of automated image analysis with omics data.

The successful post holder will provide machine learning expertise for analysing histological images. He/she will enjoy the highly collaborative environment at ICR and in this research program, and work closely with an international, highly interdisciplinary team. He/she will have the opportunities to learn about the cutting-edge technologies including deep learning and single-cell sequencing, and travel to conferences, excel in coordinating between programming and explore new research areas in medicine through collaborations.

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

Appointment will be on a Fixed Term Contract for 3 years, with a starting salary in the range of £30,410 p.a to £40,008 p.a. inclusive, depending on experience. The successful candidate will be based in Sutton, Surrey.

To apply, please upload your CV and covering letter online via our website at: <http://www.icr.ac.uk/jobsearch>, Job reference number 463

Closing date: 15 July 2018

JOB DESCRIPTION

DUTIES AND RESPONSIBILITIES

- To develop new image processing tools for analysing cancer histological images through programming in Python, Matlab, C or equivalent language
- To use statistical tools for further analysis of data generated from image analysis
- To contribute to the publication of high quality research in the form of papers, patents, and presentations at meetings.
- To work independently on a defined project and as part of a team, and to consult when appropriate.
- To communicate effectively with other members of the team and collaborators, where necessary, ICR and outside organisations.
- 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.

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.

To apply please include the following to your application:

- **A full CV with a publication List**
- **Covering letter 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 3 years)**

PERSON SPECIFICATION

Post-doctoral Training Fellow

| Criteria | Essential or Desirable? |
|---|-------------------------|
| Education & Knowledge | |
| PhD in computer science, statistics, engineering or related subjects* | E |
| Knowledge in biomedicine or histology | D |
| Experience | |
| 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 histology images | D |
| Working in collaborative research | D |
| Skills | |
| Good interpersonal skills and the ability to interact effectively with collaborators | E |
| Ability to interpret and present results in conferences | E |
| Excellent communication skills | D |
| General | |
| Highly self-motivated with scientific curiosity and a keen desire to produce high quality scientific data | E |
| Enthusiastic to learn histological approaches | D |

** 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.*