Job Title: Computational Biologist (Wet and Dry) (Cancer Research Horizons)
Grade: 7
Salary: £39,906 to £46,049 per annum, pro-rata if part-time
Department: Cancer Sciences
Hours/Contract: Full-time, fixed term contract until 31 May 2026
Job Family: Teaching and Research
Reference: 12039

Role Purpose

This post funded by Cancer Research Horizons as part of a programme of collaborative research, and is aimed at delivering key project milestones. The collaboration aims to develop new: 1) cancer models of patient derived explants (PDEs); 2) computational approaches to analyse high content multimodal ex-vivo data for evaluation of drug response efficacy; 3) discover/assess prospective predictive and pharmacodynamic biomarkers of drug response ex-vivo. The post holder will lead on bioinformatics and computational biology aspects of the programme, working closely with the Explant Facility Manager, Research technicians, histomorphometrists and the Leicester and CRH Science Leads (PIs). The computational analysis will primarily focus on analysis of multiplexed immunofluorescence spatial imaging data, genomic sequencing and expression profiling data. There will also be opportunities to provide support and training for other members of the group relation to bioinformatics / biostatistics.

Main Duties and Responsibilities

- Analysis and interpretation of raw data, including primary bioinformatics support across the programme using methodologies and techniques appropriate to the projects. Development and implementation of novel methodologies and techniques in bioinformatics analysis.

- Data curation and analysis, employing high level specialist techniques applied to spatial multiomics. The post holder will be responsible for 'trouble shooting' workflows and informatics pipelines, guaranteeing quality standards and sample integrity at each step in the process working according to GCLP.

- Collating data, preparing reports for CRH and administering the project in line with the project requirements and expectations of the funder.

- To work closely with all co-investigators and collaborators across clinical and academic teams to facilitate milestone delivery.

- Provide advice and guidance to other members of the team. Undertake supervision of research staff and research students as agreed with the line manager.

Professional Development

- Duties and opportunities to engage in work that support your own professional development

Impact and Knowledge Exchange:

- Network and contribute to the maintaining and furthering of the wider research programme and research area

- To contribute to industry collaborations

- To consult effectively on own specialism directly with people external to the University

- To engage positively and pro-actively in research impact

- Attendance at virtual and in person conferences for personal development and to provide advice and support to other members of the team.

Leadership and Citizenship:

- Guidance to other team members both research staff and students

- Pro-actively build networks and collaborations.

- Providing mentoring and coaching to Early Career Researchers and research students.

Internal and External Relationships

Work with the Principal Investigator and CRH, co-investigators and other researchers, technicians, technology transfer officers and students in the University, the University Hospitals Leicester and other academic collaborators.

Planning and Organising

- Regular meetings with members of the programme research group
- Meeting members of the department for critical discussion of the research and exchange of new ideas and approaches that might benefit the research
- Liaison with external collaborators

Qualifications, Knowledge and Experience

Essential

- PhD (or soon to be completed) in bioinformatics or biological sciences with a strong computer programming component*
- Experience in bioinformatics analysis of spatial imaging data *
- Experience in cancer immunology/inflammation
- Experience with Linux command line and a higher level programming language (eg R/Python)
- Solid background knowledge of research field*
- Evidence of research outputs*
- Experience of developing and optimising bioinformatic methods, pipelines and tools*
- Experience in analysis and interpretation of large biological data sets
- Experience in ex-vivo techniques (such as PDEs)*
- Experience in multiplexed immunofluorescence and digital Pathology*
- Experience in machine learning methodologies*
- Experience in dimension reduction techniques*
- Experience in research field

- Knowledge of modern computational approaches to biological data analysis

Desirable

- Other programming languages (Java, PHP, C++)*
- Experience in biostatistics
- A proven ability to develop new methodology.
- Experience of use of HPC clusters
- Experience in project management
- Experience in AI

Skills, Abilities and Competencies

Essential

- Extensive computing skills including NGS database analysis
- High level of proficiency in English, sufficient to undertake research, teaching and administrative activities utilising English Language materials and to communicate effectively with staff and students
- To be able to demonstrate research potential and enthusiasm of the subject area and deliver high quality research.
- Ability to collate data and draft manuscripts for publication purposes.
- Ability to work independently and well in a team.
- To be able to prioritise, plan, organise and deliver a programme of work effectively and to the required standard.
- Effective interpersonal skills.
- Ability to communicate complex information clearly.
- Effective planning and organisational skills.
- Ability to keep strict records.
- Ability to work flexible hours and adapt to changing working schedules.
- Good laboratory and analytical skills.
- Good written and verbal communication skills.
- Excellent statistical and computing skills.

Desirable

- Evidence of continued personal development of subject expertise.

Criteria to be used in shortlisting candidates for interview

Reason for Fixed Term Contract

The reason for the fixed term contract is stated in section 1.9 in the summary of contractual terms in your contract of employment.

Criminal Declaration

If you become an employee, you must inform your manager immediately, in writing, if you are the subject of any current or future police investigations/legal proceedings, which could result in a criminal offence, conviction, caution, bind-over or charges, or warnings.

NHS Research Governance

Where it is determined that the duties of this post for the purposes of research involve work with the NHS, it is necessary to ensure that the performance of the duties attached to the post are covered by NHS research governance arrangements and the appointee must comply with all such arrangements, which may include occupational health clearance and DBS clearance.

Supporting University Activities

As a University of Leicester citizen, you are expected to support key university activities such as clearing, graduation ceremonies, student registration and recruitment open days. We expect all staff as citizens to work flexibly across the University if required.

University Values

Inclusive - We are diverse in our makeup and united in ambition. Our diversity is our strength and makes our community stronger.

Inspiring - We are passionate about inspiring individuals to succeed and realise their ambitions. We challenge our community to think differently, to get involved, and to constantly embrace new ideas.

Impactful - As Citizens of Change we will generate new ideas which deliver impact and empower our community

Equity and Diversity

We believe that equity, diversity and inclusion is integral to a successful modern workplace. By developing and implementing policies and systems that challenge stereotypes across all aspects of our work, we have a culture that recognises and values the diverse contributions of our staff which benefits everyone. Our strong values of inclusivity and equity support our efforts to attract a diverse range of high quality staff and students, and identify our University as a progressive and innovative workplace that mainstreams equity, diversity and inclusion.