UNIVERSITY OF LEICESTER

Job Summary

Job Title: Research Assistant
Grade: 6
Salary: £33,662 to £38,448
Department: Division of Molecular and Cell Biology / LISCB, School of Biological and Biomedical Sciences
Hours/Contract: Full Time, fixed term until 31st March 2029
Job Family: Teaching & Research
Reference: 14244

Role Purpose

To carry out research into how X chromosome inactivation (XCI) and heterochromatin formation are regulated during early embryonic development, as part of a Wellcome-funded project led by Dr Yolanda Markaki.

Resources Managed

No budgetary or line management responsibilities. Responsible for the appropriate use of laboratory equipment, consumables, and shared microscopy and proteomics resources, and may provide day-to-day guidance to project students.

Main Duties and Responsibilities
• To carry out analyses, tests and critical evaluations using agreed techniques, novel approaches and/or models including; • Culture, differentiate and genetically engineer (using CRISPR) mouse embryonic stem cells, and use developmental models to study the onset of X chromosome inactivation and heterochromatin formation. • Carry out super-resolution microscopy (lattice SIM) and quantitative image analysis in Fiji to study how chromatin and protein complexes are organised on the inactive X. • Carry out protein biochemistry and molecular biology, including chromatin immunoprecipitation, epigenomic profiling through CutnRUN to characterise protein members of HDAC1, HDAC2 and HDAC3 complexes and their recruitment by Xist. • Analyse, interpret and combine imaging, biochemical and genomic data, and help develop new hypotheses and experimental approaches with the Principal Investigator. • Present findings at lab meetings and national and international conferences, and prepare publications and reports to the funder. • Keep accurate laboratory and data records in line with data management and health and safety requirements, give day-to-day guidance to project students, and carry out other duties appropriate to the grade. • To contribute to the development or choice of techniques, critiques, approaches, models and research methods. • To summarise findings, record, and disseminate where appropriate to members of the research group • To contribute to research outputs such as co-authored journal articles/technical papers/book chapters relating to the work • To carry out literature searches within pre-specified parameters. • To assist in supporting research students in the use of specific methods or approaches under the direction of their line manager.

Athena Swan Silver Award · Race Equality Charter Bronze Award · disability confident LEADER · LGBT+ 2020 - 2021 AWARDEE ORGANISATION · Stonewall DIVERSITY CHAMPIONS

UNIVERSITY OF LEICESTER

Job Summary

Professional Development:

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

Impact and Knowledge Exchange:

- Participate in workshops and conferences to support the dissemination of research findings.

Leadership and Citizenship:

- Contribute to the overall success of the research programme

Internal and External Relationships

- Internal: the Principal Investigator, members of the research group, colleagues in the Division of Molecular and Cell Biology and LISCB, and staff of the University imaging and proteomics facilities.
- External: collaborators at other institutions, proteomics and imaging partners, the funder (Wellcome) and the wider research community, including at conferences and meetings.

Planning and Organising

- Plan own experimental work on a weekly and monthly basis, under the direction of the Principal Investigator.
- Plan and coordinate experiments over the 24-month project, including booking shared microscopy and mass spectrometry facilities, so that project milestones are met.
- Organise and document data and protocols so that results are reproducible.

Qualifications, Knowledge and Experience

Essential

- PhD (awarded or close to submission) in stem cell biology, cell and molecular biology, biochemistry or a related discipline*
- Experience of working with mouse embryonic stem cells and differentiation/developmental models*
- Experience of super-resolution microscopy, RNA and DNA FISH and quantitative image analysis using Fiji*
- Experience in RNAseq, protein biochemistry, including chromatin immunoprecipitation and cutnrun, and of molecular biology techniques*
- Research experience in X chromosome inactivation and how heterochromatin formation is regulated in early embryonic development*
- Knowledge of epigenetic regulation in early embryonic development, in particular the function of the HDAC1, HDAC2 and HDAC3 complexes*

Desirable

- Publications in peer-reviewed journals in a relevant field
- Experience of presenting research at national or international conferences

Skills, Abilities and Competencies

Essential

- Familiarity with CRISPR genome editing*
- Ability to design, carry out and troubleshoot experiments independently*
- Good written and verbal communication skills*

Athena Swan Silver Award · Race Equality Charter Bronze Award · disability confident LEADER · LGBT+ 2020 - 2021 AWARDEE ORGANISATION · Stonewall DIVERSITY CHAMPIONS

- Ability to work well as part of a team and to organise and prioritise own work*

Desirable

- Experience of guiding or supervising students in the laboratory
- Experience of using Fiji, R or Python to analyse imaging or genomics data

**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.

Supporting University Activities

As a University of Leicester citizen, you are encouraged to support key university activities such as clearing, graduation ceremonies, student registration and recruitment open days. We encourage all staff as citizens to work flexibly across the University if required. If supporting these activities is likely to affect your workload, please speak to your line manager in the first instance

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

Freedom of Speech

The University is committed to upholding freedom of speech and academic freedom within the law throughout our recruitment processes. We ensure that all candidates are considered based on merit and suitability for the role, without regard to their lawful viewpoints or the expression of challenging or controversial ideas. Our recruitment policies and practices are designed to protect applicants from discrimination or adverse treatment on the basis of their opinions, and to foster an environment where open debate and diverse perspectives are valued as essential to our academic mission.

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 equality 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 equality, diversity and inclusion.