UNIVERSITY OF WARWICK

Job Description

Job title	Research Fellow in Mechanistic Cell Biology (109629)
Department	Warwick Medical School
Grade	6

Job purpose (a brief summary of the role)	A Wellcome-funded postdoctoral position is available in the Straube lab to investigate how molecular motors dynein and KIF1C organise microtubule arrays and transport intracellular cargoes. The postholder will generate knock-in cell lines in iPSCs, differentiate into neurons and other suitable lineages and use live cell imaging and quantitative image analysis to understand microtubule organisation, motor protein conformation and motility. Further, recombinant protein complexes will be prepared and electroporated into cells. The post holder will become a member of the Centre for Mechanochemical Cell Biology and Warwick Medical School benefitting from an outstanding scientific environment and access to state-of-the-art research facilities. You will join the laboratory of Dr Anne Straube in the Centre for Mechanochemical Cell Biology. The Straube lab aims to understand how intracellular transport is coordinated and microtubule arrays are organised to support cell polarity. In this research programme, we use in vitro reconstitution experiments, single molecule force measurements, quantitative image analysis tools and live cell imaging to understand the function of motor proteins in organising microtubules and transporting cargo. We offer an outstanding environment for discovery science in one of the best universities in the UK. The posts are funded by a Wellcome Investigator Award to investigate how cargo transporters organise the tracks along which they transport cargoes. You will be part of an international, well-resourced team of researchers with access to state-of-the-art equipment (including access to a range of light microscopy systems including spinning disk confocal, TIRF, lattice light sheet and optical tweezers) and a vibrant scientific community with excellent internal and external seminar programmes. You will have an excellent first degree in a relevant subject area (biochemistry, cell biology, biological sciences, biophysics etc.), have or expect shortly to complete a PhD or have equivalent research experience. Experience in working on an interdisciplinary scientific project is desirable, strong scientific interest and motivation are essential.
Duties and responsibilities	**Job Purpose** The post is funded by a Welcome Investigator Award to investigate the regulation of molecular motors and microtubule organisation. You will be one of four researchers who collaborate on this project. **Duties and Responsibilities** Your main task will be to drive a research project studying microtubule network organisation. You will also be expected to contribute to the smooth running of the lab and take part in public engagement activities.

	Research and Scholarship 1. Maintain a sound research base within the department in order to assist the development of research objectives and proposals for own or joint research. 2. Conduct individual and collaborative research projects. 3. Meticulous record keeping, accurate conduct and reporting of experimental setup and data. Adherence to lab standards for archiving, analysis and reporting. 4. Write up research work for publication. 5. Translate knowledge of advances in the subject area into research activity. 6. May contribute to preparing proposals and applications to external bodies, e.g. for funding and contractual purposes, to support a developing research agenda. 7. Contribute to the preparation of papers for publication. 8. Communicate complex information (orally and in writing) and material of a specialist or highly technical nature. 9. Continually update own knowledge and understanding in field or specialism. **Teaching and Learning Support** 1. Opportunities to contribute to the teaching and learning programmes in the department. 2. Assist in the supervision of student projects and the development of student research skills. 3. May be involved in the assessment of student knowledge and supervision of projects. **Administration and Other Activities** 1. May be required to attend departmental meetings and to participate (where necessary) in other committees and working groups within the department, the faculty and the University. 2. Ensure compliance with health and safety in all aspects of work. 3. Work within budget constraints. These duties and responsibilities outlined are not intended to be an exhaustive list but provide guidance on the main aspects of the job. The post-holder will be required to be flexible in their duties.

Person Specification

The Person Specification focuses on the essential and desirable knowledge, skills, experience and qualifications required to undertake the role effectively. This is measured by (a) Application Form, (b) Test/Exercise, (c) Interview, (d) Presentation.

Essential Criterion No.	Essential Criterion Description	Measured by
E1	Very good first degree and possession of a PhD, or close to completion of a PhD in a relevant discipline.	A & C
E2	Ability to successfully contribute to a research project, which includes independent scientific thinking, conducting experimental work, analysing data, and presenting it at scientific conferences and for publication in scientific journals.	A & C
E3	A developing research profile with high-quality research outputs from all stages of training.	A & C
E4	Interest and enthusiasm for understanding the mechanisms of molecular motors and microtubule organisation.	A & C
E5	Sufficient experience in at least two of these skill sets: (1) maintenance and manipulation of iPSCs or hESCs (2) generation of genome-edited human cells, (3) expression and purification of recombinant proteins from insect or mammalian cells.	A & C
E6	Excellent potential to contribute to the development of funding proposals in order to generate external funding to support research projects.	A & C
E7	Ability to accurately and meticulously record procedures and results (both in notebooks and electronically).	A & C
E8	Good interpersonal skills and ability to work independently and as part of a team.	A & C

Desirable Criterion No.	Desirable Criterion Description	*Measured by*
D1	Experience of coding in Python or Matlab.	A & C
D2	Experience in studying cytoskeletal dynamics or intracellular transport.	A & C