

Research Role Profile

Job Title:	Research Fellow A in Biological Physics
Responsible to:	Head of research group, or principal investigator
Responsible for:	Not applicable
Job Summary and Purpose:	
To undertake research in accordance with the specified research project(s) under the supervision of the principal investigator.	
Main Responsibilities/Activities	
<p>To undertake a range of research activities within a specified research area, assuming responsibility for specific areas of projects and making use of new research techniques and methods, in consultation with the research award holder or supervisor. This may include fieldwork, interviews, laboratory experimentation, critical evaluation and interpretation, computer-based data analysis and evaluation or library research.</p> <p>Using initiative and creativity to identify areas for research develop new research methods and extend the research portfolio. Analysing and interpreting results of own research. Write up results and prepare papers for submission to appropriate journals and conferences, and other outputs as required and/or appropriate. Attend appropriate conferences for the purpose of disseminating research results of personal development. The post holder may also contribute to writing bids for research grants and will contribute to collaborative decision making with colleagues in areas of research.</p> <p>Continually to update knowledge and develop skills, and translate knowledge of advances in the area into research activity.</p> <p>To plan and manage own research activity in collaboration with others. To carry out administrative tasks associated with specified research funding, for example risk assessment of research activities, organisation of project meetings and documentation. Implementation of procedures required to ensure accurate and timely formal reporting and financial control.</p> <p>To contribute to teaching in the Faculty by carrying out student supervision and/or demonstrating within the post holder's area of expertise and under the direct guidance of a member of departmental academic staff, as appropriate.</p> <p>The post holder may occasionally be required to supervise more junior research staff.</p>	

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Person Specification

The post holder must have:

A doctoral degree in a relevant discipline (although individuals who have almost completed a doctoral degree may be appointed). Consideration may also be given to individuals who do not hold a doctoral degree but have required skills based on a number of years experience in specified / relevant fields
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The post holder will have authority over some aspects of project work and must be capable of providing academic judgement, offering original and creative thoughts and be able to interpret and analyse results.
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Relationships and Contacts

Direct responsibility to the principal investigator or academic supervisor. The post holder may be asked to serve on a relevant Faculty committee. There may be additional reporting and liaison responsibilities to external funding bodies or sponsors. The post holder may work on original research tasks with colleagues in other institutions.
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Special Requirements

To be available to participate in fieldwork as required by the specified research project

All staff are expected to:

- Positively support equality of opportunity and equity of treatment to colleagues and students in accordance with the University of Surrey Equal Opportunities policy.
- Help maintain a safe working environment by:
 - Attending training in Health and Safety requirements as necessary, both on appointment and as changes in duties and techniques demand
 - Following local codes of safe working practices and the University of Surrey Health and Safety Policy
- Undertake such other duties within the scope of the post as may be requested by your Manager.

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Addendum

This document provides additional information relating to both specific aspects of the post/faculty and any post specific person specification criteria. The information contained within this document should always be read in conjunction with the accompanying generic Job Purpose.

Job Title: Research Fellow in Biological Physics

Background Information/Relationships

The project aims to investigate how physical forces and collective dynamics lead to deformation and shape changes of biological systems by using biomimetic networks of reconstituted microtubules and motor proteins. These active networks will be designed to mimic the dynamic behaviour of the cellular cytoskeleton and provide a unique model system to explore how active stresses generated by microtubules and motor proteins at the nanoscale scale up and are collectively transmitted to the mesoscale. By encapsulating the active networks in a cell-like compartments, this system will enable us to investigate the mechanical principles underlying symmetry breaking and morphological changes in cells.

The interdisciplinary project involves experimental work spanning active matter physics, membrane biophysics, and microfluidics. The successful candidate will work closely with Dr. Isabella Guido and academic collaborators from Paris-Saclay University, and Kyoto University. The candidate will develop and apply experimental and imaging techniques to characterise the pattern formation and mechanical deformation of the reconstituted active networks within confined, cell-like environments.

Person Specification

This section describes the sum total of knowledge, experience & competence required by the post holder that is necessary for standard acceptable performance in carrying out this role. This is in addition to the criteria contained within the accompanying generic Job Purpose.

Qualifications and Professional Memberships	Essential/ Desirable
PhD in a relevant field such as Physics, Biological Physics, Bioengineering, Biochemistry	E
Laboratory experience with biological materials	E
Experience in fluorescence microscopy	E
Experience in image processing	E
Demonstrated ability to conduct independent research activities	E
Good communication skill in English	E
A strong track record in publishing original research articles in peer-reviewed journals	D
Experience in microtubule active systems	D

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Experience in working with GUV or microfluidic emulsion systems	D
Willingness to travel overseas to work with international collaborators	D
Ability to work as an independent researcher within an interdisciplinary team with diverse expertise, while contributing to collaborative projects and communicating effectively with team members.	D
Key Responsibilities This document is not designed to be a list of all tasks undertaken but an outline record of any faculty/post specific responsibilities. This should be read in conjunction with those contained within the accompanying generic Job Purpose.	
<ol style="list-style-type: none"> 1. Conducting individual and collaborate research projects under the direction of the Principal Investigator 2. Writing and publishing research articles in peer-reviewed journals 3. Presenting research findings at conferences and seminars 4. Mentoring and training undergraduate and postgraduate students 5. Actively participating in lab meetings and other academic activities 6. Contributing to developing research proposals and project management 7. Continuing professional development by engaging with appropriate training courses <p>N.B. The above list is not exhaustive.</p>	