



Job Title:	Research Fellow in Organic Optoelectronics
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Responsible to:	Head of research group, or principal investigator
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Responsible for:	Not applicable
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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>

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

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.

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.

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.

**Role Profile Addendum****Research Fellow in Organic Optoelectronics****Job Summary and Purpose:**

This information sheet should be read in conjunction with the accompanying generic Research RA1A Role Profile and will be used for shortlisting processes. More specifically the post holder will be expected to:

To undertake research in accordance with the specified research project under the supervision of the principal investigator towards innovative sub-retinal, flexible, opto-electronic prosthesis, using organic semiconductor materials to resemble spectral photo-response similar to human retinal cone and rod cells.

Main Responsibilities/Activities**1. Research**

Building on prior research, the primary objective is to enhance the spectral response and output of photoactive semiconducting material devices. The initial focus will be on aligning their absorption and electronic characteristics with the responses of human photoreceptors.

2. Device Fabrication and Validation

Fabricate and validate devices comprising:

- **Thin films** as an initial step.
- **Pixelated structures** composed of four photoactive materials, including bulk heterojunctions.
- Establish confidence in the fabrication process by producing multiple devices that successfully pass electrophotometric tests.
- Perform validation in two stages:
 - i. **Planar single-material devices** must generate stimuli sufficient to activate neurons placed atop the device.
 - ii. **Pixelated devices** must demonstrate electrical stimuli adequate to activate neurons.

3. Advanced Validation

- Identify and collaborate with appropriate institutions to conduct advanced testing using either cell cultures or explanted retinas containing live cells.

4. Dissemination and Engagement

- Actively participate in relevant conferences and workshops to present findings, engage with peers, and seek expert advice and complementary expertise in bio-interfaces.
- Foster closer collaboration with Ulverschroft Foundation.

5. Future Funding Exploration

- Investigate opportunities to secure further funding from research councils, industrial partners, medical institutions, and other relevant channels.



Person Specification

The post holder must have:

Essential:

- A good honours degree
- A PhD, completed or near completion, in a relevant area of Materials Chemistry, Materials, Electronic, Electrical Engineering, Physics.
- Established research experience in solution-processable materials and devices
- Experience in report and scientific publication writing
- Willingness to work proactively and independently

Desirable:

- Experience of working in a clean room or similar environment
- Experience in opto-electronic semiconductor devices fabrication.
- Experience of a range of relevant characterisation techniques
- Experience in organic semiconductors
- Excellent oral and written skills

Relationships and Contacts

- Work well in a multi-disciplinary team including personnel from the ATI and research collaborators external to the ATI.
- Confidently and competently liaise with, and present the research to, external societal, technical and commercial groups with an interest in the work
- Ensure that all research activities undertaken are in compliance with the 'Research Code of Conduct' operated by the University of Surrey.
- Ensure compliance with health and safety requirements in all aspects of work.

Special Requirements

- To collate and deliver periodic project reports to the principle investigator as required.