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| **Job Title:** | Research Fellow A |

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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. |

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| Main Responsibilities/Activities |
| 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.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.Continually to update knowledge and develop skills, and translate knowledge of advances in the area into research activity.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.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.The post holder may occasionally be required to supervise more junior research staff. |

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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 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 Role Profile.  |
| **Job Title:** | Post-Doctoral Research Fellow |
| **Background Information/Relationships** A vacancy has appeared for a Post-Doctoral Research Fellow to join the project BELIEVE (Bioelectrochemical Systems for Lithium Recovery), a project funded by BBSRC. The main objective of BELIEVE is the development of an innovative, efficient and low-cost solution for recovery of Lithium from Li-ion battery waste.The increased use of Li-ion batteries (LiB) has caused a high demand for Li, a high-tech metal found only in a few locations worldwide. Li production is costly, energy-demanding, and environmentally damaging: It is essential to design and optimise methods for recovering Li from spent LiB. Li recycling is complex, expensive, and inefficient, recovering only a small quantity of low-grade Li. Regulations are expected to be introduced in the UK to ensure a high recovery of strategic metals. The project will focus on designing and optimising a bioelectrochemical system (BES) to recover high purity Li. Exploiting the ability of some microbial species to transfer electrons to external acceptors, we will design a microbial electrochemical system to recover Li from LiB waste, focusing on the main aspects affecting the process: microorganisms, reactor configuration, electrodes, metal concentration, substrates, etc. We will screen diverse microbial species and communities for their capability to remove Li from the waste and test them in different reactor designs (microbial fuel, electrochemical and desalination cells, and tubular reactors). This will provide qualitative and quantitative correlations between metal removal, microbial community composition, electrochemical performance, and the characterisation of different designs of microbial electrochemical reactors for efficient processing of LiB waste. We are looking for a Postdoctoral Researcher preferably with a background in microbial biotechnology and expertise in microbial electrochemical systems, ideally with hands-on experience in metal recovery from wastewaters.The appointed researcher will design, carry out and analyse experiments to select the best performing species and test their performance in diverse BES configurations to recover Li form diverse waste streams. The researcher will liaise, train, and exchange transfer skills and methodology with colleagues from related projects and set up and optimize the experimental system to optimize the process. There will be opportunities to collaborate with world-class researchers at other leading academic institutions, as well as with our industrial partners.This project is funded by the BBSRC (Biotechnology and Biological Sciences Research Council) initiative “Towards a circular bioeconomy for technology-relevant metals and textiles” and is a collaboration between the Department of Microbial Sciences, the Centre for Centre for Environment and Sustainability, and the Department of Chemical and Process Engineering of the University of Surrey. The appointee will primarily work in the multidisciplinary Systems Microbiology laboratory at the Department of Microbial Sciences, composed of microbiologists, biochemists and bioengineers, and will liaise with colleagues in related projects. |
| **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 Role Profile. |
|  | **Essential/Desirable** |
| BSc and PhD (or close to completion) in a closely allied subject | E |
| Experience in Bioelectrochemical Systems (e.g. Microbial Fuel Cells) and in the use of single species or microbial communities for treatment of wastewater and/or liquid and solid feedstocks | E |
| Experience in the analysis of microbial communities, including metagenome and metatranscriptome analysis | D |
| Experience in designing and conducting microbial experiments and metabolic and biochemical analysis | D |
| Data analysis skills | E |
| Ability to work independently | E |
| Good interpersonal skills | E |
| Ability to operate efficiently in an interdisciplinary research team | E |
| Scientific writing skills and proficiency in English | E |
| Experience in supervising UG students and PGR | D |
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| **Special Requirements**  | **Essential/Desirable** |
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| **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 (5 to 8 maximum). This should be read in conjunction with those contained within the accompanying generic Role Profile. |
| **N.B. The above list is not exhaustive**. |