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| Last updated: | September 2024 |

**JOB DESCRIPTION**

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| Post title: | **Research Fellow – Unravelling the mechanism of degradation of best-in-class lithium-ion batteries** |
| School/Department: | Chemistry and Chemical Engineering |
| Faculty: | Faculty of Engineering and Physical Sciences |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 4 |
| \*ERE category: | Research pathway |
| Posts responsible to: | Prof. Nuria Garcia-Araez |
| Posts responsible for: | none |
| Post base: | Non Office-based (see job hazard analysis) |

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| Job purpose |
| To undertake research in accordance with the specified research project under the supervision of the award holder. To undertake leadership, management and engagement activities. |

| Key accountabilities/primary responsibilities | % Time |
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|  | To develop and carry out an area of research in support of the objectives of the funded programme. This will involve activities in materials synthesis/characterisation and electrochemical measurements. | 70 % |
|  | Regularly disseminate findings by taking the lead in preparing publication materials for referred journals, presenting results at group/project meetings and conferences, or exhibiting work at other appropriate events. | 10 % |
|  | Carry out administrative tasks associated with specified research funding, for example risk assessment of research activities. Implementation of procedures required to ensure accurate and timely formal reporting and financial control. | 5 % |
|  | Supervise the work of junior research staff. | 5 % |
|  | Carry out occasional undergraduate supervision, demonstrating or lecturing duties within own area of expertise, under the direct guidance of a member of departmental academic staff. | 5 % |
|  | Any other duties as allocated by the line manager following consultation with the post holder. | 5 % |

| Internal and external relationships |
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| Performing research under the guidance of Prof. Nuria Garcia-Araez and the other Investigators in Southampton and with project collaborators. |

| Special Requirements |
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| To be available to travel to participate in meetings as required by the research project. To attend national and international conferences for the purpose of disseminating research results.*Applications for Research Fellow positions will be considered from candidates who are working towards or nearing completion of a relevant PhD qualification. The title of Research Fellow will be applied upon successful completion of the PhD. Prior to the qualification being awarded the title of* ***Senior Research Assistant*** *will be given.* |

**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | PhD or equivalent professional qualifications and experience in materials chemistry, electro-chemistry, or a closely related discipline.Research experience and high-level knowledge in most of the following areas:* Electrochemical characterisation of batteries or related systems.
* Use of materials characterization techniques.
* Understanding of battery degradation
 | Research experience in the following areas:* Preparation of battery electrodes and cell assembly.
* Handling of air moisture materials.
 | Application, interview and references |
| Planning and organising | Able to organise a range of activities to deadline and quality standards. |  | Interview and references |
| Problem solving and initiative | Able to develop understanding of complex problems and apply in-depth knowledge to address them. |  | Interview and references |
| Management and teamwork | Able to work independently and make appropriate decisions.Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development. | Evidence of ability to support the research activities of others within the research groups and the multidisciplinary project team. | Interview and references |
| Communicating and influencing | Communicate new and complex information effectively, both verbally and in writing, engaging the interest and enthusiasm of the target audience.Able to present research results at group meetings and conferences. | Able to write up research results for publication in leading peer-viewed journals | Application, interview and references |
| Other skills and behaviours | Understanding of relevant Health & Safety issues.Positive attitude to colleagues and students. |  | Interview and references. |
| Special requirements | Willingness to undertake occasional travel and overnight stays e.g. to attend conferences or project meetings. |  | Interview |

**JOB HAZARD ANALYSIS**

**Is this an office-based post?**

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| [ ]  Yes | If this post is an office-based job with routine office hazards (eg: use of VDU), no further information needs to be supplied. Do not complete the section below. |
| [x]  No | If this post is not office-based or has some hazards other than routine office (eg: more than use of VDU) please complete the analysis below.Hiring managers are asked to complete this section as accurately as possible to ensure the safety of the post-holder. |

## - HR will send a full PEHQ to all applicants for this position. Please note, if full health clearance is required for a role, this will apply to all individuals, including existing members of staff.

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| **ENVIRONMENTAL EXPOSURES** | **Occasionally** (<30% of time) | **Frequently**(30-60% of time) | **Constantly**(> 60% of time) |
| Outside work  |  |  |  |
| Extremes of temperature (eg: fridge/ furnace) | x |  |  |
| ## Potential for exposure to body fluids |  |  |  |
| ## Noise (greater than 80 dba - 8 hrs twa) |  |  |  |
| ## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below: |  | x |  |
| Frequent hand washing |  | x |  |
| Ionising radiation  | x |  |  |
| **EQUIPMENT/TOOLS/MACHINES USED** |
| ## Food handling  |  |  |  |
| ## Driving university vehicles(eg: car/van/LGV/PCV)  |  |  |  |
| ## Use of latex gloves (prohibited unless specific clinical necessity) |  |  |  |
| ## Vibrating tools (eg: strimmers, hammer drill, lawnmowers)  |  |  |  |
| **PHYSICAL ABILITIES** |
| Load manual handling | x |  |  |
| Repetitive crouching/kneeling/stooping |  |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods |  | x |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) |  |  |  |
| Fine motor grips (eg: pipetting) |  | x |  |
| Gross motor grips |  |  |  |
| Repetitive reaching below shoulder height |  |  |  |
| Repetitive reaching at shoulder height | x |  |  |
| Repetitive reaching above shoulder height |  |  |  |
| **PSYCHOSOCIAL ISSUES** |
| Face to face contact with public | x |  |  |
| Lone working |  |  |  |
| ## Shift work/night work/on call duties  |  |  |  |