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| Last updated: | Oct. 2024 |

**JOB DESCRIPTION**

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| Post title: | **Research Fellow in Developing Advanced Sensors for Bioelectronics** | | |
| Standard Occupation Code: (UKVI SOC CODE) | 2119 - Natural and social science professionals | | |
| School/Department: | Electronics and Computer Science | | |
| Faculty: | Faculty of Engineering and Physical Sciences | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 4 |
| \*ERE category: | Research pathway | | |
| Posts responsible to: | Principle Investigator | | |
| Posts responsible for: |  | | |
| Post base: | Office-based/Non Office-based (see job hazard analysis) | | |

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| Job purpose |
| To undertake research in accordance with the ARIA project - Miniaturised Multimodal Sensors Mimicking Skin Mechanosensation for AI-Enhanced Neurovascular Precision, focused on developing advanced sensing systems to provide real-time feedback for medical applications. By merging bioinspired design, cutting-edge materials, and AI-driven technologies, the goal is to create innovative solutions that enhance precision, safety, and effectiveness in healthcare. The role will involve lab-based experimental studies within the Digital Health and Biomedical Engineering (DHBE) Group, under the supervision of Dr. Rujie Sun who leads the Multiscale Intelligent Biodevices Lab. |

| Key accountabilities/primary responsibilities | | % Time |
| --- | --- | --- |
|  | To develop and carry out the research indicated in the project. | 75 % |
|  | Regularly disseminate findings by preparing publication materials for referred journals, presenting results at conferences, or exhibiting work at other appropriate events. | 10 % |
|  | Supervise the work of junior research staff. | 15 % |
|  | Collaborate/work on original research tasks with colleagues in other institutions. |
|  | Carry out administrative tasks associated with this research project, 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. |
|  | Any other duties as allocated by the line manager following consultation with the post holder. |

| Internal and external relationships |
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| Direct responsibility to holder of research award.  Other members of the department/University staff.  External collaborators. |

| Special Requirements |
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| To be available to participate in fieldwork, if 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 Biomedical Engineering, Electronic Engineering, Mechanical Engineering, Materials Science, or related fields with a strong academic record | Knowledge of bioelectronics and medical devices.  Experience of device microfabrication.  Experience of biomaterial development. | CV + Interview |
| Planning and organising | Able to organise own research activities to deadline and quality standards | Experience of project management | Interview |
| Problem solving and initiative | Able to develop understanding of complex problems and apply in-depth knowledge to address them  Able to develop original techniques/methods |  | Interview |
| Management and teamwork | Able to supervise work of junior research staff, delegating effectively  Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development |  | Interview |
| 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  Work proactively with colleagues in other work areas/institutions, contributing specialist knowledge to achieve outcomes |  | Interview |
| Other skills and behaviours | Positive attitude to colleagues and students  Proactive in promoting a working environment that is inclusive and engaging; recognising the value diversity brings.  Understanding of relevant Health & Safety issues |  | Interview + Reference Letters |

**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. |
| 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) |  |  |  |
| ## 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: |  | √ |  |
| Frequent hand washing |  | √ |  |
| Ionising radiation |  |  |  |
| **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 |  |  |  |
| Repetitive crouching/kneeling/stooping |  |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods | √ |  |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) |  |  |  |
| Fine motor grips (eg: pipetting) |  |  |  |
| Gross motor grips |  |  |  |
| Repetitive reaching below shoulder height |  |  |  |
| Repetitive reaching at shoulder height |  |  |  |
| Repetitive reaching above shoulder height |  |  |  |
| **PSYCHOSOCIAL ISSUES** | | | |
| Face to face contact with public |  | √ |  |
| Lone working | √ |  |  |
| ## Shift work/night work/on call duties |  |  |  |