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| Last updated: | November 2018 |

**JOB DESCRIPTION**

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| Post title: | **Senior Research Fellow – Nanoelectronics** | | |
| School: | ECS | | |
| Faculty: | Faculty of Engineering and Physical Sciences | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 5 |
| \*ERE category: | Research pathway | | |
| Posts responsible to: | CH de Groot | | |
| Posts responsible for: | NA | | |
| Post base: | Non-Office-based (see job hazard analysis) | | |

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| Job purpose |
| To undertake research in accordance with the EPSRC Project EP/V062689/1 “Electrodeposited 2D Transition Metal Dichalcogenides on graphene: a novel route towards scalable flexible electronics” under the supervision of the award holder and in collaboration with the rest of the project team and support the project in other ways including publication of the research, presentation of the research at conferences, public engagement. |

| Key accountabilities/primary responsibilities | | % Time |
| --- | --- | --- |
|  | Carry out research on the physical properties of semiconducting materials deposited using electrodeposition and devices which incorporate these materials as part of an interdisciplinary team | 60 % |
|  | Regularly disseminate findings by taking the lead in preparing publication materials for referred journals, presenting results at conferences, or exhibiting work at other appropriate events. | 10% |
|  | Collaborate/work on original research tasks with colleagues in other disciplines. | 7 % |
|  | 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. | 10% |
|  | 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% |
|  | Undertake public outreach and engagement activities. | 3% |
|  | Any other duties as allocated by the line manager following consultation with the post holder. | 5 % |

| Internal and external relationships |
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| Direct responsibility to line manager, Professor de Groot, and Principle Investigator of the project, Professor Gill Reid.  Delivery of research may be supervised by other academics within the project.  The post will be expected to work as part of interdisciplinary team taking responsibility in collaboration with other PDRAs and PhD students. This may involve both leading and taking a lead from other PDRAs.  May be asked to serve on a relevant Academic Unit committee, for example research committee.  Collaborators/colleagues in other work areas and Schools (especially Chemistry). |

| Special Requirements |
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| 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 Physics, Electronics, or Materials Science.  Growing and consistent national reputation in semiconductor research and 2D materials | Experience of measurement and interpretation of electrical properties of semiconductors materials and devices  Experience of semiconductor device fabrication.  Knowledge of cleanroom processing techniques | Application and Interview |
| Planning and organising | Proven ability to organise a range of high quality research activities to deadline and quality standards, ensuring plans complement broader research strategy | Able to build a research team | Application and Interview |
| Problem solving and initiative | Able to identify broad trends to assess deep-rooted and complex issues  Able to apply originality in modifying existing approaches to solve problems |  | Application and Interview |
| Management and teamwork | Able to manage, motivate and coordinate research team, delegating effectively. Able to formulate staff development plans, if appropriate  Able to undertake coordinating role in School/Department/university  Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development | Experience of working in an interdisciplinary team. | Application and Interview |
| Communicating and influencing | Communicate new and complex information effectively, engaging the interest of the target audience  Track record of presenting research results in leading journals  Able to persuade and influence at all levels in order to foster and maintain relationships  Work proactively with colleagues in other work areas/disciplines, |  | Application and Interview |
| Other skills and behaviours | Undertake work in a manner which ensures Health and Safety of themselves and others around them.  Positive attitude to colleagues and students |  | Application and Interview |
| Special requirements | Able to attend national and international conferences to present research results | Able to undertake short, <5 day, collaboration trips to undertake research both within UK and, less likely, internationally. | Application and 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. |
| 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 | v |  |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) |  |  |  |
| Fine motor grips (eg: pipetting) | v |  |  |
| Gross motor grips |  |  |  |
| Repetitive reaching below shoulder height | v |  |  |
| 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 |  |  |  |